DOCUMENT RESUME

ED 032 845 HE 001 136

Undergraduate Education. The Study of Education at Stanford. Report to the University.
Stanford Univ., Calif.
Report No-R-2
Pub Date Nov 68
Note-112p.
EDRS Price MF-$0.50 HC Not Available from EDRS.
Descriptors-*Academic Standards, Administrative Policy, *Curriculum Development, *Educational Objectives, *Higher Education, Institutional Role, Organization, Planning, *Undergraduate Study
Identifiers-*Stanford University

This report, the second in a series of ten, was prepared by the Steering Committee, the Study of Education at Stanford. The series, based on the concept that education should be a continuous process of discovery throughout life, sets forth recommendations for strengthening the academic enterprise at Stanford University. This report concentrates on the undergraduate curriculum. The General Studies Program is seen as lagging behind the pace of rapid change experienced by the university and its students since the Program's inception in 1956. Perceiving discrepancies between the general educational ideal and the institutional reality, the Steering Committee advocates a transitional set of university-wide prescription that would help to resolve some of the differences. Sixteen recommendations propose changes in curricular programs and requirements. Another 14 deal with academic operation: the calendar and schedule, courses and credit, and grades and examinations. This second set of recommendations repudiate some modern, restrictive practices and embody older traditions of higher learning that facilitate educational objectives. Written requests for copies of this report may be sent to: Study of Education at Stanford, Room 107, Building 10A, Stanford University, Stanford, California 94305. [Not available in hard copy due to marginal legibility of original document.] (WM)

The Study of Education at Stanford

Report to the University

II

dergraduate ucation

The Study of Education at Stanford: Report to the University II Undergraduate Education

EDO 32845

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

S DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE RSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS ATED DO NOT NECESSARILY REPRESENT OFFICIAL OFFICE OF EDUCATION SITION OR POLICY.

HE001 136

Contents

Preface 1

Undergraduate Education: Report of the Steering Committee

Introduction 3

Curricular Programs & Policies

The General Studies Program 5
The Freshman Year 11
Distributional Policies & Requirements 17
Special Programs 22
New Courses 26
Honors and Independent Work 30
Off-Campus Learning 32

Academic Bookkeeping

The Calendar & Schedule 35
Courses & Credit 39
Course Credit by Independent Study 44
Advanced Placement by Examination 45
Grading 46
Eligibility of Continued Enrollment 48
Summary of Recommendations 50

Appendices

1. Summary of a questionnaire survey of the Class of '68 56
2. Summary of information on undergraduate education from Humanities and Sciences departments 69
3. Memorandum on Freshman English from Professor Robert M. Polhemus 73
4. Memorandum on the future of the Western Civilization program and staff from Professor Paul S. Seaver 75
5. The Teaching of Composition in College—Leon Seltzer, Director of the Stanford University Press 77
6. Report to the faculty of Humanities and Sciences by its ad hoc committee on the General Studies Program 85
7. Summaries of minimum Bachelor's degree unit requirements in various majors, 1968–69 90
8. Excerpts from Joseph Tussman, "The Collegiate Rite of Passage" 92
9. Description of Monteith College as a model for the proposed general education college 97
10. Samples of new science-technology courses 99
11. Memorandum from the Medical School liaison committee 101
12. SES staff paper: Undergraduate Honors Programs and Independent Study 102
13. An Enabling Mechanism for Off-Campus Learning Programs at Stanford—Professor Morris Zelditch 106

Preface

This is one of a series of reports, which we submit to the University community for its consideration. The first of our reports, *The Study and Its Purposes*, stated the general premises on which our recommendations turn. The remainder of this series, in the approximate order of issuance, includes the following:

II. *Undergraduate Education*
III. *University Residences and Campus Life*
IV. *Undergraduate Admissions and Financial Aid*
V. *Advising and Counseling*
VI. *The Extra-Curriculum*
VII. *Graduate Education*
VIII. *Teaching, Research, and the Faculty*
IX. *International Education*
X. *Government of the University*

Comments on these reports, and requests for copies, should be addressed in writing to Study of Education at Stanford, Room 107, Building 10A, Stanford University, Stanford, California 94305.

Steering Committee
The Study of Education at Stanford

November 1968

Steering Committee
The Study of Education at Stanford

Herbert L. Packer, *Chairman*
Professor of Law and Vice Provost

Norton T. Batkin III
Undergraduate student in Philosophy

James F. Gibbons
Professor of Electrical Engineering

Albert H. Hastorf
Executive Head and Professor of Psychology

Joshua Lederberg
Executive Head and Professor of Genetics

Mark Mancall
Associate Professor of History

Michael M. Menke
A.B. Princeton 1963;
Graduate student in Physics

Anne G. Osborn
A.B. Stanford 1965
Graduate student in Medicine

Leonard I. Schiff
Professor of Physics

Robert R. Hind
Staff Director, Study of Education at Stanford

Undergraduate Education

Report
of the
Steering Committee

Introduction

In the first of these reports, entitled *The Study and Its Purposes*, we tried to state the assumptions underlying SES, and upon which its recommendations would be based. In this report we present our recommendations on those aspects of undergraduate education that can be deliberately directed through the adoption of formally stated policies. We put the matter that restrictively because our conceptions of education and of the University permit far less weight to be placed on such policies than has been the recent tradition at Stanford. The most important of our recommendations are ground-clearing in character. they are designed to free both teacher and student of trammels that restrain the freedom to teach and to learn that ought to characterize the University.

Our present arrangements place far too much reliance on prescription; the General Studies Program is simply the most obvious case in point, not the only one. We regard many current features of "academic bookkeeping" as contributing in subtle ways to an overly rigid educational environment, which is why we devote a good deal of attention in this report to recommend simplification of our calendar, our method of calculating academic credit, and our grading system.

Current concern with problems of university governance makes it unnecessary to labor the importance of the arrangements for administering undergraduate education. Our current arrangements are disheveled, to put it mildly. We are therefore recommending consolidation of the confusingly overlapping posts of Dean of Undergraduate Education and Director of General Studies into a single post of Dean of Undergraduate Studies to serve as the academic advocate for the general interests of undergraduates in the University. At the same time we are recommending reorganization of the two Academic Council committees that oversee these administrative posts–the Committee on Undergraduate Education and the Committee on General Studies–into a single Committee on Undergraduate Studies. The proposed deanship, which we should like to see occupied by a distinguished teacher of undergraduates, would be coordinate with (i.e., neither subordinate nor superior to) the deanships of schools. The principal functions would be the coordination of general education, especially through interdisciplinary programs, and the promotion of continuing curricular innovation at the undergraduate level. A full description of the proposed duties of the Dean and the Committee will be given in our forthcoming report, *Government of the University*. We mention them here because the Dean and the Committee are referred to at several points in this report. While these proposed new structural arrangements are central to our view that greatly enhanced attention to the undergraduate is required, they are separate and distinct from the substantive curricular recommendations presented in this report, which should be considered on their own merits.

Curricular Programs & Policies

The General Studies Program

We begin this discussion of undergraduate education by examining our present General Studies Program and stating why we believe that it should be substantially modified.

Because many members of the faculty are far less familiar with the program than is the average undergraduate student, we reproduce the current description of the program:

STANFORD UNIVERSITY
SUMMARY OF GENERAL STUDIES PROGRAM
July 1968

The Program of General Studies extends over the four undergraduate years. The General Studies requirements as outlined below must be fulfilled in addition to the requirements established by the student's major department. A student may declare his major at any time during the first two years, but he must declare it by the beginning of his junior year.

Fifteen units constitute an average program for a quarter. In his first quarter the entering freshman student may not take fewer than 13 credit units, nor normally not more than 16 credit units, except by petition. However, an entering freshman may take more than 16 units in his first quarter, if he is enrolled in a Freshman Seminar, an Undergraduate Special, an ROTC program, or if a total of only four courses is involved. After the first quarter, a student may enroll for no fewer than 13 credit units and normally for no more than 18 credit units. But a student with at least a "B" average (3.0 or above) may take more than 18 units without petitioning.

NOTES: (1) All courses approved as General Studies options or requirements are marked # in Courses and Degrees and in the Time Schedules.

(2) No course may be taken to satisfy more than one General Studies requirement. This policy does not preclude use of a General Studies course to fulfill a departmental requirement.

(3) Courses taken for General Studies credit may not be taken Pass-Fail.

(4) Whereas in general the General Studies requirements are firmly applied, reasonable variations within the structure of approved courses may be requested by petition.

A. BASIC REQUIREMENTS FOR ALL STUDENTS

1. **English 1, 2, 3**–Freshman English (Composition and Literature).
2. **History 1, 2, 3**–History of Western Civilization.
3. **Foreign Language or Mathematics**–Students may choose to complete either a foreign language or a mathematics series.
   a. *Foreign Language*

   Acquisition of a reading facility equivalent to that reached in the following courses: Chinese 21, French 23, 82, German 22, 52, 82, Greek 23, Hebrew 23, Italian 23, 82, Japanese 21, Latin 23, Portuguese 23, Russian 52, Spanish 23.

   b. *Mathematics*

   Completion of the final course of any of the following sequences or the equivalent.

   1. Mathematics 10, 11, 21, 22, 23
   2. Mathematics 31, 32, 33, 34, 35
   3. Mathematics 41, 42, 43
   4. Mathematics 41, 52, 53

   Note: See Section E below for statement concerning tests in Language and Mathematics.

B. AREA REQUIREMENTS FOR ALL STUDENTS

Students are exempt from the General Studies Area Requirements within the area in which they major. This exemption applies to the following areas: humanities, social sciences (including communication and history), natural sciences (including engineering, mathematics, nursing, physical therapy, and statistics). This exemption does not affect, however, the Basic Requirements in mathematics, foreign languages, English, and History of Western Civilization, as listed under "A" above. All students must therefore complete the following requirements in the *two areas* in which they are *not* majoring:

*1. **Humanities**–(Only courses listed in the current *General Studies Bulletin* and marked # in *Time Schedules* are acceptable.) A minimum total of 8 units selected from General Studies courses in at least *two* of the following three fields:
   a. The Fine Arts (including Archeology, Art, Music, Speech and Drama)
   b. Philosophy, Religion (Philosophy 3 may not be credited here)
   c. Literature

*2. **Social Sciences**–A minimum total of 10 units selected from the General Studies courses listed below. The units must be distributed between at least *two* of the departments represented.
   a. Anthropology 1
   b. Communication 1
   c. Economics 1
   d. Food Research Institute 1 (Human Geography)
   e. Political Science 1 (See Section D, part 2b)
   f. Psychology 1
   g. Sociology 1, 50, 55, 103, 105, 123

*Students who attend overseas campuses may fulfill the Area Requirements in humanities and social sciences by selecting appropriate courses at the centers.

3. **Natural Sciences** (including engineering and mathematics)–Students must take one of the following sequences with laboratory. Students who have not taken one year of biology in high school must take the biology series; students who have had biology but no physical science in high school must take a complete physical science series; students who have taken both biology and a physical science in high school may choose any complete series.

Biological Sciences

a. Biology 4, 5 (8 units)*

b. Biology 10, 11 (10 units)*

c. Biology 10, 12 (10 units)*

Physical Sciences

a. Physical Sciences 1, 2, 3 (9 units)

b. Physics 21, 23, 29 (12 units)**

c. Physics 51, 53, 54, 55, 56 (14 units)**

d. Chemistry 1, 2, 3 (13 units)

e. Geology 1, 2 (10 units)

***Majors in biology and pre-meds normally enroll in the Biology 10-series.**

****Majors in the physical sciences and engineering normally enroll in the Physics 50-series; other students, including pre-meds, normally enroll in the 20-series.**

C. ADDITIONAL REQUIREMENTS FOR CANDIDATES FOR THE A.B. DEGREE

1. One of the following courses:
   a. Mathematics 1 &2, Statistics 50, Math 24, or a more advanced course making use of calculus.
   b. Philosophy 3 (Logic)
   c. 4 units of additional reading in the foreign language which the student took under "A." (This requirement may be fulfilled either in consultation with the student's own major department, or by taking French 54, German 53, Russian 53, Portuguese 54, Spanish 54, or by taking a 4-unit language reading course numbered 100 or higher. This requirement is fulfilled by the language instruction at an Overseas Campus other than Stanford-in-Britain.)
2. Additional courses in the natural sciences: That number of units which, when added to the work completed under "B3," brings the total to 17 units. This additional work must be selected from the following courses in such a way as not to duplicate subject matter covered under "B3." Some courses listed under *a* through *e* may be taken without laboratory in satisfaction of this requirement, but credit will be correspondingly reduced. Requirement "B3" must include laboratory.
   a. Biology 4, 5; 10, 11, 12
   b. Chemistry 1, 2, 3 (or 4)
   c. Physical Sciences 1, 2, 3; 5, 6, 7; 50, 100, 150
   d. Physics 21, 23, 29; 51, 53, 54, 55, 56, 57, 58
   e. Geology 1, 2
   f. Mathematics 10, 11, 21, 22, 23; 31, 32, 33, 34, 35; 41, 42, 43; 52, 53
   g. Philosophy 3 (Logic)
   h. Statistics 50
   i. Psychology 60
   j. Anatomy 114
   k. Civil Engineering 170
   l. General Studies 110, 111 (Elementary Human Physiology)
   m. Computer Science 50A, 126
3. Senior Colloquium–One colloquium of 2 units, *as listed in the Time Schedule* under "Senior Colloquia." No more than two colloquia may be taken for credit. The following A.B. candidates are exempt from the Senior Colloquia requirement:
   a. Students taking their senior year of undergraduate study as their first year in the Schools of Law or Medicine.
   b. Students enrolled in the Humanities Honors program or the Honors program in Social Thought and Institutions.

D. SEQUENCE RECOMMENDATIONS

Whereas English 1, which must be taken by all entering freshmen in their first quarter, is the only sequence requirement in the General Studies Program, intelligent planning will require that attention be directed to the following considerations:

1. Many courses that must be taken as part of a sequence are offered only one quarter each year. English 1, 2, 3, History 1, 2, 3, and the physics and math series are examples. Students are advised that a delay in beginning such sequences may result in awkward schedules and excessive course loads in later quarters.
2. Some introductory courses are recommended, and in some cases required, as preparation for other courses. In particular, a) prospective engineering and science majors will need a high degree of mathematical skill (Math 41, for example, is a prerequisite for the Physics 50-series); b) History 1, 2, 3 provide a useful preparation for further courses in the humanities and social sciences; c) foreign languages provide a valuable preparation for the Overseas Campuses and for intensive scholarly inquiry.

The General Studies Program resulted from the work of the Stanford Study of Undergraduate Education, conducted during the period from August 1954 to September 1956.[1] The program as initially adopted was the product of careful deliberation and was soundly conceived for the needs of the University and its undergraduates as they then stood. Integral to the program, however, was the notion of continuing review and improvement, a process that proved to be incompatible with other demands placed upon the committee that was established to oversee the program. Comparison of the program as originally adopted by the Academic Council with the program as it stands today reveals little in the way of substantive change. Primarily because no institutional mechanisms were in fact provided, the hope expressed in the Introduction to *The Undergraduate in the University*—"that self-study at Stanford may . . . become a permanent habit of mind"—was not realized. Meanwhile, the University and its student body underwent a period of rapid change, with which the program did not keep pace. Consequently, the deficiencies that we see in the program are largely the result of the wear and tear of time, rather than any original defect of conception.

Our criticism of the program can be summed up under the following headings: rigidity, superficiality, selectivity, and unreality.

1. *Rigidity*. We have yet to hear any student agree with the statement that ". . .flexibility is one of the major strengths of the General Studies Program" (*Courses and Degrees*, p. 5). That was certainly not the conclusion of the Ad Hoc Committee on the General Studies Program (the Royden Committee) appointed by the Steering Committee of the Humanities and Sciences Assembly in 1967. The Royden Committee found the program "unduly prescriptive." Nor is "flexibility" a characteristic that emerges from the testimony of faculty and staff members who serve as General Studies advisers. They tend to agree that the fulfillment of General Studies requirements becomes an end in itself rather than a means of guiding students to rational choice. And it is a sad fact that many of our best students see the prescriptiveness of the General Studies Program as a symbol of the faculty's lack of concern with undergraduate education. Detailed rules like those set out above are viewed as what Professor Brooks Otis has called "general education by the

---

[1] See Robert Hoopes and Hubert Marshall, *The Undergraduate in the University* (Stanford, 1957).

registrar's office." It is obvious that the more detailed any set of rules, the harder it is to defend, especially in particular applications. In a day when "legitimacy" is a watchword, the University should be very sure indeed that its rules have a defensible rationale, an impossible task in the context of the General Studies Program.

2. *Superficiality*. By trying to guarantee breadth of coverage the General Studies Program instead promotes superficiality of exposure to everything except the student's major subject. Perhaps the most pronounced example of this tendency, among several that might be cited, is found in the social sciences area requirement (B.2.), which insists that the student take two different introductory survey courses. It is unlikely that ten weeks of exposure followed by nothing will do much for a student's comprehension of anthropology, economics, or political science. Yet the pressure to meet the entire range of General Studies requirements makes further work in any of these fields an unattainable luxury for many students.

3. *Selectivity*. It is inevitable that a program as highly prescribed as the Stanford General Studies Program will reflect, explicitly or implicitly, judgments of differential significance that are difficult to defend. Why, for example, is it more important for a student to learn some calculus than some economics? Are we really sure that mastery of a foreign language is more important than mastery of one of the fine arts? More important to whom or to what? It is no answer to questions of this order that the various requirements represent a set of political compromises among interest groups in the faculty, although that explanation probably comes closer to the truth than do more nearly principled ones.

4. *Unreality*. Perhaps the most telling point to be made about the General Studies Program is that it represents an unsatisfactory compromise with the ideal of general education. Statements of that ideal tend to vary, but they also tend to repeat three emphases: first, a "shared" or common intellectual experience, with concomitant restriction of student choice; second, a focus on the heritage of Western civilization; third, interdisciplinary as opposed to departmental courses. General education, as epitomized by the Chicago curriculum of the Hutchins era and the Columbia two-year sequences in Humanities and Contemporary Civilization, is dead or dying. The Harvard general education ideal, as defined in the famous *Redbook* of 1946, did not ultimately flourish in its own birthplace, as the Doty Committee report of 1964

makes painfully clear.[2] The reason is not so much conceptual deficiency as institutional unreality. The faculty of today's university, for better or worse, consists of a collection of discipline-oriented specialists. The faculty member whom the university seeks to attract is an individualist who, while accepting the collegial responsibility of shared tasks within his discipline, nonetheless prefers to teach and learn what *he* wants to teach and learn, not what is prescribed by a committee. This preference is fatal to the ideal of a prescribed curriculum, as is becoming clear in those last bastions of the "staff course"–Freshman English and History of Western Civilization. The Stanford compromise, to quote Brooks Otis again, has been "to reach an *educational* goal by a bookkeeping arrangement (a set of unrelated, *ad hoc* requirements) while leaving all the essential features of its departmental and professional-school setup quite undisturbed." It is time for us to face the fact that this compromise leaves the teacher and the student with the worst elements of two attractive but conflicting ideals: from the ideal of general education it leaves prescription in form but not prescription in substance; from the ideal of freedom to teach and to learn it leaves incoherence of purpose. The underlying problem is both intellectual and institutional. There are no easy solutions, but we are persuaded that the current General Studies Program will no longer suffice.

Our basic conception, as we have stated in *The Study and Its Purposes*, is that education ought to be a continuous process of discovery, taking place throughout an individual's lifetime, and that the university ought to serve as the institutional paradigm of that process. The faculty member should be free to pursue his intellectual interests wherever they lead him. The student, other things being equal, should be similarly free. If one did not have to add "other things being equal," the task of prescribing university requirements for undergraduate education would be simple indeed: there should be none. But other things are not equal; uninformed freedom of choice is illusory. On the other hand, abstract prescriptions of "what everyone ought to know" are unrealistic absent a commitment that goes deeper than the mere act of prescribing. What we advocate is a minimal and perhaps a transitional set of University-wide prescriptions that serves as a partial resolution of the tension we perceive between the general education ideal and the institutional reality of the University as a community of specialists. The essential elements, which we elaborate in the following pages, are:

---

[2] Faculty of Arts and Sciences, Harvard University, *Report of the Special Committee to Review the Present Status and Problems of the General Education Program* (1964). For discussion of general education at Columbia, Chicago, and Harvard, see Bell, *The Reforming of General Education*, 24–50, 183–94 (1966); Jencks and Riesman, *The Academic Revolution*, 492–504 (1968).

1. An introduction, in the freshman year, to the nature of scholarly inquiry in some field.

2. A sustained experience, in the freshman year, of the discipline of writing.

3. An exposure, in the freshman year, to some aspect of historical studies.

4. An exposure, during the undergraduate years, to each of the following areas: humanities, social sciences, and natural sciences and technology. This exposure may be gained from whatever is available in the University, limited only by conscientious departmental or individual determination of necessary prerequisites.

5. A concentration, during the undergraduate years, upon some area of inquiry. In the normal course this concentration will reflect the boundaries of some academic discipline, as represented by a department; but it need not do so.

The Freshman Year

It is an odd feature of the General Studies Program that it does not speak of the freshman year as such. We consider that a striking weakness, because we think that some conscious purpose or purposes should animate our curricular arrangements for the all-important year of transition from secondary school to college. The prime purpose, we believe, should be to provide the most favorable curricular setting we can for developing a commitment to the life of the mind. By this we mean nothing more pretentious than creating recognition that the rewards of intellectual inquiry are commensurate with one's skill at it. Young people understand that point very well in relation to, say, skin diving. If they do not understand it in relation to the uses of the intellect, their educational institutions should at least be able to assert that they have made the effort. Intellectual inquiry is what the university is all about. Not everyone takes to it, but the rejection should be deliberate rather than inadvertent. We are not convinced that such is the case today.

we think that what is called for is a dramatic shift in the allocation of teaching resources at the undergraduate level, so that a greater proportion of regular faculty members will come into direct contact with freshmen. For that purpose we propose to build upon our highly successful experience of the last few years with the Freshman Seminar Program by making this form of educational experience, to the extent feasible, the central and common feature of the freshman year. In some measure, as we discuss in detail below, this program will also serve as a possible means of satisfying either or both of two other purposes that ought to be served by the freshman year: 1) an extensive experience in writing closely geared to inquiry into an intellectual problem or problems and 2) an exposure to historical studies.

This proposal builds upon the concept (discussed in *The Study and Its Purposes*) that the objective toward which curricular planning should strive is, to the extent possible, to let the teacher teach what he wants to teach and the student learn what he wants to learn. In this concrete application of the concept, we visualize a regular member of the faculty offering a seminar on some problem or problems of interest to him, presumably arising out of his own scholarly work, and accepting the challenge (so successfully met by teachers of Freshman Seminars) of providing freshmen with enough orientation in relevant features of his discipline to make feasible their engagement with the process of serious inquiry. Topics could range from literature to science, and each instructor would be urged to use his topic as a means of moving from the particular to the general. He might, for example, relate it to basic assumptions within his field, to other areas of knowledge, to current social problems, or to the relevant historical context.

Each Freshman Tutorial would begin in the fall term of the freshman year.[3] Enrollment would be limited to a maximum of 12 students, assigned on the basis of their expressed course preferences. The placement process would be accomplished during the summer preceding matriculation under the supervision of the Dean of Undergraduate Studies, working in close liaison with the Admissions Office. Each tutorial would be taught by a regular member of the faculty, aided by a teaching assistant who would be expected to guide and criticize written work. Teaching assistants would not necessarily come from the same department as the tutorial instructor. They would tend to be drawn from English and other humanities departments, although that would not necessarily be the case. It would be a conscious object of the program to provide teaching experiences to graduate students displaced by curricular shifts occasioned by other SES recommendations, notably in English and foreign languages. We believe that in most cases the change will be viewed as beneficial by the graduate student.

---

[3] In this discussion we are assuming a two-term calendar as recommended *infra*, p. 38. If that recommendation is not accepted, this and subsequent recommendations are adaptable to the current three-term calendar.

The tutorial would ordinarily involve one or more assigned papers during the fall term rather than an examination. After the first term of seminar work and of writing, those students who wished to continue and were judged capable of doing so by the tutorial instructor would spend the second term doing independent reading and research and would write a substantial paper under the direction of the teaching assistant. The tutorial instructor would continue to be available for consultation with students and with the teaching assistant, would review the final paper, but would have no other responsibilities for the work of the second term.

We see this program as having an important relationship to advising. Freshman advising has two components: advising on mechanical matters such as course requirements, and advising on matters of intellectual and personal concern. We believe that the mechanical problems should be substantially reduced by our proposed changes in the General Studies Program. The faculty adviser would be able to concentrate on the more important function of serving as advocate, counselor, and academic guide. This adviser, for students enrolled in tutorials, would normally be the Freshman Tutorial instructor. He would ordinarily continue in this relationship until the student declared a major. The opportunity to change advisers would remain open to the student, as at present. The advantage over our present situation that should accrue from the use of Freshman Tutorial instructors as freshman advisers is obvious: the student is assigned an adviser who knows and to some extent shares his intellectual interests and with whom he will become well acquainted during his freshman year. This aspect of the advising problem is discussed in greater detail in our Report V, *Advising and Counseling.*

It is essential to the success of this program that participation in it be viewed as part of the normal teaching load for faculty members in schools having undergraduate degree programs (Humanities and Sciences, Earth Sciences, and Engineering). No educational program should have to depend upon the charitable impulses of faculty members. The relationship of this program to undergraduate teaching loads should be worked out by the Dean of Undergraduate Studies in cooperation with deans of schools and department heads. We also expect the Dean of Undergraduate Studies to seek volunteers for this program from the graduate professional schools (Business, Education, Law, and Medicine), and we expect him to receive the support of the deans of the respective schools in that effort. It is important that faculty members from these schools play a part in this program, as they have done heretofore in the Freshman Seminar Program. Since these schools have no formal responsibility for undergraduate teaching, it may not be practicable to count the service of such volunteers as part of their regular teaching loads. Direct compensation and provision of teaching assistantships should be available for them, on the pattern that has been developed in the present Freshman Seminar Program.

This shift in the freshman program, with its concomitant shift in resource allocation, cannot be accomplished overnight. We propose that it be initiated as soon as possible and that it be extended as rapidly as resources permit to accommodate all freshmen who wish to participate. Freshmen who cannot be accommodated during the transitional period would follow the existing Freshman English-Western Civilization pattern as modified in the light of subsequent recommendations. Individual preferences of incoming students should be accommodated insofar as possible, and assignments made on the basis of random selection where applications exceed the number of spaces in any course.

Other Freshman Year Programs

We see two other needs that should be met during the freshman year. One is for work that involves a substantial writing component for students who do not take the second term of the Freshman Tutorial. The other is for a substantial exposure to historical studies for students whose Freshman Tutorial does not give them that experience. These needs are very roughly analogous to objectives presently sought to be met through, respectively, Freshman English and History of Western Civilization. We do not believe that the only or even the primary avenues to meeting these educational needs should be the present multiple-sectioned courses bearing those titles. Here, too, we believe that greater freedom for the instructor to teach what he wants to teach and for the student to learn what he wants to learn will be rewarding for all concerned. We are not alone in that judgment, as witness the substantial movement away from these courses by those presently responsible for them.

In both cases, the movement is attributable to the distaste for "staff courses," a distaste that we share. Two recent departmental committee reports make this point very powerfully. One is the report of the English Department's Committee on Composition (the Polhemus Committee), which is reprinted in Appendix 3. The other is a report prepared by the instructors in Western Civilization, the tenor of which is reflected in the memorandum from Professor Paul Seaver, the director of that program, which is reprinted in Appendix 4. The Polhemus Committee report has already resulted in a modification of Freshman English for this year in which three independent courses, with satellite writing sections, are being substituted for regular Freshman English sections. We do not propose abolition of the present courses in Freshman English and Western Civilization, but we do think that other options should be available.

We expect that a substantial number of Freshman Tutorials will be generated from the faculties of the English Department and other humanities departments and that the great majority of students in those tutorials will take the second term of the tutorial, thereby satisfying the need for a program with a substantial writing component. For those students who do not satisfy that need in what we regard as the preferred manner of taking a two-term Freshman Tutorial, either because they do not continue with the second term or because the content simply does not lend itself to extensive written work, we would propose a one-term writing course, under the supervision of the English Department but not limited to its personnel, ancillary to some other course that the student is taking at that time. A thought-provoking model for such a program is afforded by the memorandum by Leon E. Seltzer, Director of the Stanford University Press, entitled "The Teaching of Composition at Stanford," which is reprinted in Appendix 5. The coordination of this ancillary course should be in the hands of a Director of Composition, appointed from or approved by the faculty of the English Department, under the general supervision of the Dean of Undergraduate Studies.

Our other proposal for a freshman year requirement is in the area of historical studies. The need for an exposure to historical studies has been endorsed by the Royden Committee, whose report is reprinted in Appendix 6. We agree with its conclusions that the need exists and that a course in the History of Western Civilization is not the only way to meet the need. The fundamental importance of historical studies resides in their impact, at once sobering and liberating, on the naive view that human problems and human aspirations as we know them today are somehow unique. That perspective needs to be altered and altered early in a student's undergraduate career. We do not have a definition of historical studies but find suggestive the one recently proposed by the Humanities and Sciences Committee on Undergraduate Education: "that courses in 'Historical Studies' be taken to mean any courses which place emphasis upon the varied relationships existing between such aspects of a society's life as its political and administrative institutions, its system of class stratification, its material means of production, its intellectual and cultural activities, and the aspirations of its members, *and* upon the manner in which these relationships are affected by the reciprocal operation of change and continuity."

We believe further that Professor Seaver's imaginative proposal (see Appendix 4) for better utilization of the 20 junior faculty positions presently devoted to staffing the Western Civ course can supply not only 20 different Freshman Tutorials in historical studies but also enough additional course offerings to absorb all freshmen whose tutorials do not provide an exposure to historical studies. The great advantage of this scheme over the present course in Western Civ is that it will provide a diversity of course offerings, including some that are not adequately reflected in our present curriculum. The young teachers who are recruited on a short-term basis for this service need not come exclusively from the academic discipline of history, although their orientation in fields such as economics, political science, religion, sociology (or even the natural sciences) should be predominantly historical. Their recruitment should be in the hands of a small interdepartmental committee, chaired by a member of the History Department, working with the Dean and Committee of Undergraduate Studies. We do not, of course, mean to suggest that qualified freshmen should be barred from fulfilling the historical studies requirement by taking other regular offerings of the History Department. The Seaver plan shows how to provide historical studies without relying on a single, superficial survey course and without inundating an already heavily burdened History Department. The committee referred to above should also determine what courses other than those offered by the History Department meet the historical studies requirement.

Western Civilization is not now a freshman requirement and is in fact often postponed to later years by students in engineering and the natural sciences. Because of its importance to other studies and to the formation of a mature perspective on human problems, some exposure to historical studies should be a common feature of the freshman year as we conceive it. Our proposed alternative for historical studies is shorter than the present full-year course in

Western Civilization, and we think it can reasonably be met in the freshman year.

In summary, then, our recommendations are[4]

1. The University curricular policies and requirements for the freshman year should be as follows:

a. For each student, a one-semester writing experience integrated with a course, which may but need not be Freshman English.

b. For each student, a one-semester course in historical studies.

c. For as many students as possible, a first-semester Freshman Tutorial taught by a regular faculty member and directed either toward conveying the style of intellectual inquiry in his field of knowledge or toward illuminating the relationships between his and other fields of knowledge, or toward both.

d. For all students enrolled in Freshman Tutorials (so designated by the instructor) whose performance in the first-semester tutorial demonstrates adequate capacity, a second-semester tutorial devoted to independent research and writing.

e. It is the University's policy that to the extent possible requirements a. and b. should be met through the Freshman Tutorial.

Distributional Policies & Requirements

We have already indicated our criticism of the General Studies Program as an unsatisfactory compromise between the ideal of general education and the reality of university organization. That compromise has resulted in a distortion of the concept of breadth of knowledge: it is perceived by many a student as something that "they" want him to acquire rather than as an important ingredient of his own education. At the same time, breadth is often taken to mean a superficial acquaintance with the highlights of a discipline, which inevitably have to be relearned if the student goes beyond an introductory course.

---

[4] **Mr. Menke would prefer Recommendations 1 and 2 to be stated as guidelines.**

We believe that the time has come to abandon this self-defeating approach and to place upon students a greater share of the responsibility for profiting from the University's educational resources. A freer market for both teacher and student is likely to lead, we think, to better teaching and better learning.

Accordingly, we propose that University distributional requirements should be kept to the absolute minimum necessary to prevent educational lopsidedness rather than being viewed as the mechanism for producing the liberally educated man. We further believe that these requirements should be stated as broadly as possible. In our judgment, that minimum, leaving aside departmental requirements (with which we deal separately), consists of any two courses in each of the following three areas: humanities, social sciences, and natural sciences and technology. The areas should be understood to include among them all courses in the University open to undergraduates. Courses in the student's major field will satisfy one of three area requirements. Questions will inevitably arise about the assignment of particular courses to one or another of these three areas. Those questions should be dealt with by the Dean and Committee of Undergraduate Studies. These distributional requirements are different from and in addition to the freshman year requirements stated above.

We would leave to the individual departments the task of devising further requirements. In particular we think that the present mathematics-or-foreign language requirement is best left to the departments, with the freedom to prescribe either, neither, or both, as they deem proper for students electing a concentration in their academic disciplines. We have no fear that the study of mathematics will languish in consequence. Students who plan to major in engineering, in the natural sciences, or in certain of the social sciences will be advised in no uncertain terms to acquire the necessary mathematical competence, as they are at present. Whether a foreign language requirement will be widely espoused is perhaps less clear. Two of our most popular majors are history and English. Eloquent advocacy of the importance of language study has come from members of both departments. It will be for the departments, under our scheme, to decide what they wish to ask of their students in this respect. Whatever the outcome of their deliberations, there will be another powerful source of inducement to acquire a language competence if another prospective SES recommendation is adopted. Our position on the undergraduate overseas campuses, which will be set forth in our Report IX, will favor a larger role for the language departments in setting the curricula for each campus than they presently enjoy. It will also favor the setting of higher language proficiency requirements than presently obtain. We think that as a curricular device this carrot is preferable to the stick of a graduation requirement.

The three area requirements should not be further encumbered, in our view. We believe that students should have the greatest latitude consistent with departmental policies to take advanced courses without first taking an introductory survey course. We specifically reject the idea that as a matter of University policy the science requirement must include laboratory work. We also reject the view that students should have to sample two different disciplines within each of the three broad areas. If a student wants to take two psychology courses, or two art history courses, or two mathematics courses, he should be able to do so. He may profit more from a deeper understanding of one discipline than from a superficial understanding of two. Of course, these distributional requirements are minima, and we intend to insure that the student who wants to range further will find it practicable to do so.

We have tried to keep proposed distributional requirements to a minimum. There is, we believe, a middle ground between requirements (with the authoritarian connotation of that term) and complete *laissez-faire*. It is appropriate for the faculty to state guidelines or policies that it strongly believes students would be well-advised to follow, while stopping short of rigidifying those policies into requirements. We have already stated one such policy, addressed primarily to the faculty: giving a high curricular priority to providing as many Freshman Tutorials as possible. We have another to state at this point, addressed primarily to students. We think that students would be well-advised to equip themselves (if they do not come here thus equipped) with proficiency in a foreign language, together with an acquaintance with a literature and culture associated with that language. Students who fail to do so may find themselves handicapped in pursuing many fields of study both at the undergraduate and the graduate levels. Furthermore, students who fail to do so will inadvertently cut themselves off from a broadening and liberating perspective.

It may be asked why similar statements of policy on a University-wide basis should not be made about other fields of study, notably mathematics and the fine arts. In the case of mathematics, we see no need for such a statement, given the prevalence of mathematics as a threshold discipline today for a wide variety of fields. In the case of the fine arts, we are simply not sure that the University's resources are presently adequate to meeting the demand if such a policy were taken seriously. We think it especially appropriate to single out language study at this time because of our view that it is central to the serious study of the humanities and our deep conviction that Stanford needs to give greater attention to the needs of the humanistic disciplines in allocating its resources. We also wish to record our view that the proposed Committee on Undergraduate Studies should be charged with the duty of considering on a continuing basis what policies (as opposed to requirements) should be stated for the guidance of undergraduates.

We summarize our recommendations on undergraduate University requirements and policies beyond the freshman year as follows:

2. University undergraduate policies and requirements beyond the freshman year should be:

a. Each student must take at least two semester courses in each of the three following areas, over and above the courses that he takes in satisfaction of freshman year requirements: humanities, social sciences, natural sciences and technology.

b. Undergraduates are advised to equip themselves with proficiency in a foreign language and to acquire an acquaintance with a literature and culture associated with that language.

3. Where special circumstances so warrant, the Dean and Committee of Undergraduate Studies should have the authority to apply modifications of the policies and requirements stated in Recommendations 1 and 2.

Retroactivity

We have not worked out in detail a scheme for applying these changed requirements to students presently enrolled at Stanford because we could not possibly foresee all the permutations and combinations that might ultimately emerge from faculty acceptance, modification, or rejection of the recommendations. We do think, however, that no student presently enrolled at Stanford should be held to more stringent University graduation requirements than those adopted for future use. In order to illustrate the operation of this principle, we make the following recommendation:

4. Upon the adoption of changed requirements for graduation from the University, each candidate for the degree of Bachelor of Arts or Bachelor of Science enrolled in the University at the time of such adoption shall be deemed to have satisfied his General Studies requirements if he has satisfactorily completed:

a. One semester (or two quarters) of Freshman English or other writing course.

b. One semester course (or two quarter courses) of historical studies.

c. Two semester courses (or three quarter courses) in each of the following areas: humanities, social sciences, and natural sciences and technology.

Departmental Requirements

Our final recommendation on the overall curricular structure is a limit on departmental prescription (see Appendix 7 for present major requirements). We have confined the student's choice, albeit within the broadest limits, with respect to approximately one-fourth of his program, through our freshman year and distributional requirements. We think that his own interests should be allowed to determine another fourth of his program: the physicist should be able to pursue music and art; the humanist should be able to pursue psychology and mathematics; or, for that matter, both should be free to pursue their own specialties in greater depth than is required. To safeguard that enclave of free choice, we propose that the student's major department should be able to prescribe not more than one-half of his total program, measured by courses taken (as hereafter described). This limitation should include courses prescribed by the major department but given by other departments, such as mathematics and foreign languages. We recommend the adoption of the following regulation covering school and departmental requirements:

5. Each school or department should be permitted to prescribe not more than one-half of the undergraduate major's total program, including courses required to be taken in fields other than the field of concentration.

Undergraduate Programs in Engineering

We recognize the special problems imposed upon the School of Engineering by Recommendation 5, particularly those problems arising from the demands of the profession. The present accreditation requirements of the Engineers' Council for Professional Development call for an array of undergraduate courses that considerably exceed one-half of the usual four-year undergraduate program, though they also indicate that "well-considered experimentation in engineering curricula" will receive sympathetic consideration.[5]

ECPD accreditation is deemed important by many faculty members in the School of Engineering. It is consistent with our Recommendation 5 for the School to continue offering programs that meet ECPD criteria so long as these programs are presented as *optional* routes to a degree in the School. We therefore recommend that new programs meeting the limitations specified in the above recommendation be offered, possibly under the label of "applied science," for students who wish to earn a B.S. degree in the School of Engineering, but want to include a greater proportion of non-engineering courses or otherwise exercise more choice than accreditation requirements permit. We further recommend that the applied science degree be available either without specific disciplinary specialization or with concentration in any engineering department; and that the School make clear that for many students the applied science degree may provide the best combination of a broad undergraduate education and preparation for graduate work in either engineering or a related field. We would expect the stature of the Stanford School of Engineering to provide certification for this program at least as valuable as the official sanction of the ECPD.

To summarize, we recommend that:

6. The School of Engineering should provide optional degree programs that meet the limitation expressed in Recommendation 5.

Special Programs

Our principal curricular recommendations represent an explicit abandonment of the Stanford compromise with the idea of general education. They retain, however, two key concepts traditionally associated with conventional curricular structures: 1) the concentration (or major) in terms defined by the boundaries of an academic discipline and 2) the avoidance of excessive specialization through a distribution requirement. These two concepts seem to us to capture the best of what can be made available to undergraduates within the constraints of the current academic situation and to meet adequately the needs of the bulk of our undergraduate student body during the years immediately ahead.

---

[5] *35th Annual Report of Engineers' Council for Professional Development*, 1967. Cf. "Basis for Accredited Engineering Curricula," p. 68, item 4.

We see, however, a need for initiatives in other directions. We do not merely mean to recommend innovation for its own sake (although a defensible case can be made for that approach). Rather, we see three distinct new programs that should be instituted on a limited basis. All three highlight what we regard as deficiencies in the present structure of undergraduate education at Stanford, deficiencies that will be only partly mitigated by our principal curricular reforms.

Self-designed Majors

The normal academic concentration in English, or political science, or physics, or whatever, amply meets the interest of most of our students. However, the fit between academic department and area of undergraduate concentration is not always perfect, as witness the growth of such programs as Social Thought and Humanities Special Programs. Other interdepartmental programs of this kind will undoubtedly come into existence and should be welcomed. However, it does not seem necessary or advisable to restrict this development to faculty initiative. Students who can present an intellectually coherent plan of concentration that cuts across departmental lines should be permitted to plan their own majors. The Academic Council has already approved this step for a limited number of undergraduates. Professor Lawrence Ryan, Associate Dean of the School of Humanities and Sciences, who has administered this experimental program, reports that the results have been very promising. It surely must be a net gain for any undergraduate to think seriously about the design of his own program.

The experience with the program authorized by the Academic Council does not suggest that officers of administration would be inundated with self-designed majors if this option were made available to all. However, we believe that faculty participation in such planning is essential, and that a student's plan of study should be approved by a faculty member prior to its submission for final approval. We therefore recommend that:

7. Any student at any stage in his undergraduate career should be entitled to formulate a plan of concentration with the approval of a member of the Academic Council, who will take responsibility for direction of the program. Such a program will become the student's major upon approval by the Dean and Committee of Undergraduate Studies or their delegates.

University Honors Program

Our next proposal goes one step further and is intended to benefit that small number of students who show exceptional and unusual promise of intellectual or artistic creativity. We recommend that:

8. A limited number of our most promising students should have the opportunity of designing their entire undergraduate program free of all formal concentration or distribution requirements under a new University Honors Program.

Each such program might or might not include or be limited to course work, might or might not include periods spent away from the campus, might or might not require the ordinary four academic years to achieve the baccalaureate degree. Students applying for admission to the program would be expected to submit a paper outlining their proposed course of study, justifying its design, and defining the goals toward which it is intended to lead. Admission to the program would require the approval of a faculty group established or designated for that purpose. Yale's well-established and highly successful Scholar of the House program offers a model of what we have in mind. Unlike those in the self-designed major program, participants in the University Honors Program would be expected to produce a substantial piece of work of intellectual or artistic merit, culminating in graduation "with distinction" or "with great distinction" (as redefined hereafter).

A General Education College

Our third proposal looks in an entirely different direction from the two just described. The latter are intended to provide an even greater degree of flexibility than will be available to most undergraduates. To put it another way, they withdraw even further from the already attenuated general education ideal. Our next proposal is one that seeks, for the first time at this University, to give the general education ideal full rein for a small number of students who elect this option.

We have already expressed our view of why the general education ideal is totally impracticable as a dominant curricular pattern in the modern university. At the same time, we have suggested that this institutional impracticability is in some ways unfortunate. We reject the notion that what cannot be done for everyone should not be attempted for anyone. The principal themes of the general education movement–a shared intellectual experience, a focus on the heritage of Western civilization, and a transcending of departmental or disciplinary lines–deserve at least a foothold in the modern university, both for their value to the limited number of people who can be involved and for their exemplary effect on the institution as a whole. The models we have in mind are Chicago in the Hutchins era, St. John's, and, currently, Monteith College at Wayne State and the experimental college at Berkeley directed by Professor Joseph Tussman. Descriptions of the Berkeley and Monteith programs are reproduced in Appendices 8 and 9. We recommend that:

9. A general education college should be established under the supervision of the Dean and Committee of Undergraduate Studies. Work in the college would ordinarily extend over the freshman and sophomore years. Adequate academic space should be reserved for the exclusive use of this college, not necessarily on a residential basis.

This proposed college is not an experimental college in the usual sense. It is not a pilot program for eventual adoption on a larger scale. It must be and remain small. Sufficient justification for such a program lies in what it does for the limited number of faculty members and students who can participate. We would hope to see a relationship develop between this general education college in the first two years and interdisciplinary concentrations such as the Humanities Honors Program. An experience in this college should also prove a desirable predicate for students to develop a self-designed major.

An essential feature of such a college is the participation of an adequate number of faculty members who are prepared to make a major commitment to the effort of devising and leading a common program of study. It is essential that faculty members who participate be willing to work with materials in which they are not specialists.

There is no reason, in our judgment, for providing a more favorable faculty-to-student ratio for this program than is generally available to undergraduates. Assuming a faculty-to-student ratio of 1 to 15 (a figure we mention as merely illustrative), if five full-time equivalent faculty members are prepared to plan and teach such a program, we would hope that 75 entering freshmen, chosen from among those who apply, would be enabled to enroll. As the college enters its second year, its faculty and enrollment would approximately double.

Careful planning will be required to work out the details of this program. We propose that this planning actively involve the first group of Fellows of the University under the Ford Foundation program just announced.

New Courses

The structural changes that we have recommended will make it easier for the undergraduate to develop and pursue a variety of intellectual interests. These changes are, as we have said, essentially ground-clearing in nature. Cleared ground is not enough, of course. We need to turn our attention to new syntheses that will better serve the interests of contemporary education than do some of our present offerings. In particular, we need to consider how to improve instruction for the non-specialist. It is understandable that the first call upon the departments should be the needs of their own graduate students and undergraduate majors. We have become convinced, however, that greater attention needs to be paid to providing courses that are not merely introductory to further work but that can serve as an intelligent layman's introduction to the subject matter. There is also a strong demand for interdisciplinary, problem-centered courses. The new Undergraduate Special course, Racism and Prejudice, is an example of what we have in mind. The main reason that these demands have largely gone unmet is that there has been no catalyst for innovations that do not reflect essentially departmental interests. The necessary catalytic agents are, as always, people and money.

The Dean of Undergraduate Studies, as the academic advocate for the undergraduate, should play a role in the innovative process that has previously been unfilled. The Committee on Undergraduate Studies will provide a focal point for innovative interest if, as we hope, it consists principally of people of that persuasion. The Senate's Committee on Committees and the ASSU selection mechanism must be responsive to the need. We also have a new resource in the Fellows of the University appointed under the Ford Foundation grant referred to above. These young faculty members should have as a high priority task the engineering of new syntheses for the undergraduate curriculum. Their role should be both creative and entrepreneurial, working out new courses involving their own areas of competence and serving as intellectual brokers for the interests of others. In time, a kind of junior faculty network, cutting across departmental lines, may emerge from the innovative activity that we seek to promote. We will have more to say on this subject in our Report VIII, *Teaching, Research, and the Faculty*.

The kind of innovative activity that we seek to promote costs money. We could simply say: get it. Fortunately, there is something more concrete that we can recommend on this score. The Ford grant also includes an Innovation Fund, a kind of "internal foundation" to provide venture capital for high risk enterprises. It is the intention of the grant that these funds be used to promote the very kind of curricular changes that we are calling for in this section of our report. This Innovation Fund, which will provide about $500,000 over the next five years, needs to be augmented. The University should make it a high priority fund-raising objective to build the Innovation Fund into a permanent feature of the academic budget at a level adequate to insure its continued impact on the process of educational change. An amount equal to 1 percent of the total instructional budget may be a useful first target.

The agenda for curricular change is by definition dynamic. We are more concerned about instigating the process than fixing the agenda. What follows is merely illustrative of the kinds of needs we see, which will have to be determined by the agencies of change that we recommend elsewhere.

1. *Science and technology for the non-specialist.* The need here is too obvious to require elaboration. As illustrations of what might be done we include in the appendix some illustrative proposals for interdisciplinary and problem-oriented courses that would touch upon the nature, methodology, and social relevance of a number of scientific and technological disciplines (see Appendix 10). We are particularly interested in directing some of the resources of our distinguished School of Engineering into the general undergraduate curriculum. Such problems as reducing environmental pollution and improving mass transportation afford fruitful themes for demonstrating the interplay of technological skill and social need. The gap between what we know how to do technically and what we are able to do socially calls for careful analysis rather than existential despair. We think that a little more analysis and a little less despair would be a good thing for undergraduates.

2. *Interdisciplinary studies in the social sciences.* For the undergraduates, as for the interested layman, there is something exasperating about the way in which validity seems to triumph over significance in what social scientists do–an exasperation that seems currently to be shared by many social scientists. The undergraduate curriculum could use several kinds of courses that it does not now have. One is a course that traces the interconnections among the behavioral sciences and illuminates the common threads in their methodologies. Such a course might provide a more meaningful introduction to this broad area of human knowledge than the present introductory survey courses in anthropology, psychology, and sociology. Another kind of course is one that relates what social scientists know and do not know to social prob-

lems like urban poverty, racism, and crime. Still another would be a series of courses that provide a synthesis different from what is achieved within the confines of a particular discipline. For example, Professor David M. Potter has proposed, in a report to the Committee on General Studies, the establishment of an American Studies Program.[6]

3. *Interdisciplinary studies in the humanities*. The present undergraduate Humanities Honors Program represents a development that should be encouraged, given the substantial and growing strength of the humanities departments and the great demand among undergraduates for programs that cut across disciplinary lines. An obvious line of development is a program in comparative literature, involving faculty members from all of the literature departments. Other lines of development are those that have long been urged by Professor Albert Guerard: programs in Modern Thought and Literature and in Contemporary Culture, drawing not only on literature but also upon the other creative arts and upon those forces in contemporary thought that shape the modern consciousness. The intersections of the humanities and the social sciences offer unexploited opportunities, like Professor Potter's American Studies proposal referred to above.

4. *Professional school courses*. The faculties of the graduate professional schools at Stanford have a long history of interest and involvement on an individual basis in undergraduate education. These intellectual resources can mean a great deal to undergraduates, especially because they represent career patterns and life styles that will eventually absorb a significant proportion of the undergraduate population. We need to draw on these resources in a more systematic manner than we have heretofore done. The Medical School Liaison Committee of SES, under the chairmanship of Professor William P. Creger, has produced a report (reprinted in Appendix 11) that opens up a promising line of development. Similar proposals need to be stimulated and carried through in the other graduate and professional schools.

5. *Mathematics, statistics, and computer science*. These departments are already heavily burdened with responsibilities for students in the entire

---

[6] *Undergraduate General Education in the Next Decade*, Committee on General Studies, Stanford University (mimeo) 1967, pp. 15-17.

area of natural science and technology. Yet it is clear that the whole mathematical area, including the rapidly developing field of computer science, has relevance to the humanities and social sciences in ways that are not adequately exploited in the undergraduate curriculum. We have not had an opportunity to inquire into this problem to the extent necessary to make concrete recommendations. We think, therefore, that the Dean of Undergraduate Studies (or one of the Fellows of the University, acting for him) should take the initiative in working with a small committee drawn from the relevant departments to design a course or courses that more nearly meet the needs of non-specialists.

6. *The practicing arts.* An increasing number of undergraduates are developing an interest in creative expression through writing, painting, sculpting, acting, film making, music, and other forms of active participation in the arts. These activities are presently scattered among a number of different departments and are divided, without overall planning, between professional-level work and instruction for the interested amateur. We believe that the subject of the place of the practicing arts in this University needs a coherent study. It is one of the many topics that we have not been able to pursue, and we commend it to the Dean and Committee of Undergraduate Studies. We mention it here because we have been advised by several people that the demand on the undergraduate level substantially exceeds our present teaching resources.

We can summarize our recommendations about structure and process for developing new non-departmental courses and programs as follows:

10. The Dean and Committee of Undergraduate Studies should be specifically charged with responsibility for working with departments to develop new course offerings primarily intended for non-specialists. In this effort they should have the assistance of the Fellows of the University.

11. The University's fund-raising activity should give a high priority to augmenting the Innovation Fund established under the Ford Foundation grant. One percent of the annual instructional budget is a useful first target.

12. Areas that call for early attention in new course development include: science and technology for the non-specialist; mathematics and computer science for the non-specialist; interdisciplinary and problem-oriented studies in the humanities and the social sciences; professional school offerings for the undergraduate; and the practicing arts.

Honors & Independent Work

Honors programs and other kinds of independent work provide worthwhile opportunities for self-directed learning and are easily adaptable to the goals and abilities of individual students. Such programs also allow students to assume a greater share of the responsibility for their own education. In the light of our concern for developing the attitudes and aptitudes essential to a lifelong interest in learning, we should encourage honors and other independent work conducted under the close supervision of members of the faculty.

Honors programs presently exist in only 11 departments and two interdisciplinary programs in the School of Humanities and Sciences and involve approximately 10 percent of the majors in that school. Even some of these programs fail to include the in-depth, out-of-course work that ought to characterize honors and other independent study. Instead they simply add specified extra courses to the regular major requirement. Independent research and directed reading conducted under the guidance of individual faculty members account for only 2 percent of the total number of units taken by undergraduates. The total of both honors and directed work was a little over 2.7 percent of total undergraduate work (see Appendix 12).

There are several reasons for the shockingly inadequate level of honors and independent work currently undertaken. First of all, the existing programs came into being as an accretion on the existing department structure. Some faculty members have been willing to take on a certain amount of such work in addition to their normal teaching loads, but the limit on teaching resources seems to have been reached. Additional budgetary support or a reduction of present conventional offerings is necessary if independent programs are to expand. We consider the latter alternative as more realistic. We see additional benefits deriving from a critical review of course lists in order to prune back on proliferating offerings in some areas.

A second major problem of honors programs in particular is their failure consistently to attract the best students. Since honors work is usually added to major requirements, many students are unable to fit it into their programs of study. In those cases where honors work must begin in the junior year, attendance at an overseas campus is often a bar to participation.

In order to encourage more independent work, we would urge departments to establish more programs of the following nature:

1. Independent research and directed reading conducted through arrangement with an individual faculty member.

2. Seminars that include independent work by the participants.

3. Honors programs based upon independent work and accompanied by seminars at which individuals present for critical review their own work product.

This third option is proposed as an alternative to honors programs which are no more than separate courses or seminars for a selected group of undergraduates. We would also urge that honors and independent work programs be set up in such a way that students can enter at any time after the end of the freshman year. Finally, we recommend that:

13. The Dean and Committee of Undergraduate Studies should be given responsibility for encouraging the whole area of independent studies and honors work, and some portion of the resources available, including the Innovation Fund recently granted by the Ford Foundation should be employed for this purpose. The Dean and Committee of Undergraduate Studies should work with departments to establish programs in which a number of carefully selected students would spend their entire senior year doing independent work. Each student in this program would work under the guidance of a faculty member.

Increases in independent work should be accompanied wherever possible by an increased involvement of graduate students as tutors and seminar leaders or as members of teams that would include a faculty member, a graduate student, and one or more undergraduates. Funds available for independent work should be concentrated principally on departments with large undergraduate enrollments, and some of these funds should be set aside for the support of graduate students taking part in the program. Some money should also be set aside for undergraduate research.

Recognition for Superior Academic Performance

Undergraduate students now receive recognition for exceptional academic work through a variety of awards, through membership in honorary organizations, and through formal University recognition at the time of graduation: specifically a bachelor's degree with departmental (or interdisciplinary) honors, "with distinction," or "with great distinction."

Honors are awarded to students who complete certain specified requirements, usually participation in special courses and completion of an honors thesis or essay. Students who achieve honors receive a certificate from the department, special listing in the commencement program, and a notation on their transcripts. Honors are not recorded on the diploma.

"Distinction" and "great distinction" are determined entirely by grade point average, with the top 5 percent receiving the latter designation and the next 10 percent receiving the former. Recognition appears in the commencement program, on the transcript, and on the diploma. The list of designated students is also published in the *Daily*.

Since the "distinction" designation is more widespread and visible, many students by-pass honors opportunities, which require extra effort, in order to obtain recognition for superior work. In 1968, only 21 percent of the 229 students who graduated "with distinction" and 31 percent of the 86 who graduated "with great distinction" also earned departmental honors. On the other hand, of the 135 honors students, 56 percent received distinction at one of the two levels.

In order to encourage more independent work and to give credit where it is most deserved, recognition upon graduation should be shifted from accomplishment as measured by grades to acknowledgement of superior independent work. We therefore recommend that:

14. The designation "with great distinction" should be reserved for those students who complete an exceptional piece of independent work, either individually or as part of an honors program, and whose overall academic records fall above some established level (e.g., more "A's" than "B's" and "C's"). All other students completing an exceptional piece of independent work should receive degrees "with distinction." The criteria for "exceptional independent work" should be determined by the major department, school, or committee.

Off-Campus Learning

Field work, mostly independent work conducted outside the institution, has come to play an important role in higher education, particularly in the social sciences. A larger number of universities have integrated such work into their undergraduate curricula and, in some cases, have required it for graduation. A proposal for such a program is contained in a paper by Professor Morris Zelditch, which appears in Appendix 13.

Perhaps much of this recent development can be attributed to an increasing student desire to participate in programs of social change, to make their education "experiential." But off-campus learning, in both social science and field research activities, can also develop a personal sense of competence and responsibility without which intellectual skills would remain immature and impotent.

We strongly believe that field work can be a worthwhile educational experience, but we would emphasize that the University cannot and should not respond to all student desires in this respect. Much valuable field work lies outside the competence of the University. Other field work, particularly field research demanding careful observation and rigorous methodology, exhibits a well-defined intellectual content. Both "experiential" and "intellectual" work, to draw a crude distinction, should be encouraged. Only field work that has substantial intellectual content properly belongs in the academic curriculum. We therefore recommend that:

15. The ASSU, working together with the Dean of Students, should establish a social service clearing house, to serve as an information and coordination center for field work that stresses social service. It should work with students, faculty, and off-campus agencies in helping to arrange for various kinds of field experience.

We visualize a center patterned after Phillips Brooks House at Harvard and Dwight Hall at Yale, which identify work opportunities, negotiate with the respective field agencies, and counsel students on the opportunities open to them.

16. Each appropriate department should establish a regular course entitled Directed Field Research, somewhat akin to Directed Individual Research, which would be listed in *Courses and Degrees*. The Dean and Committee of Undergraduate Studies should be given responsibility for encouraging and coordinating all field work conducted as part of the academic curriculum.

These courses should provide preparation and supervision for field work of an academic nature, such as:

1. Group participation in an ongoing institution of some kind, such as a hospital. Preference should be given to institutions having training or instructional facilities of their own.

2. Field research conducted by a group of students who also participate in a seminar related to their work.

3. Individual work of either of the above types.

Academic Bookkeeping

We have reported above our recommendations with respect to the undergraduate curriculum and other programs and activities that influence the ways in which education takes place at Stanford. Here we confine our attention to what might be classified as the metrics of academic operation: the calendar and schedule, courses and credit, grades and examinations. Although our recommendations apply primarily to undergraduate education, many of them have a direct bearing on graduate programs as well.

The recommendations in this section of the report represent a return to some of the older traditions of higher learning, traditions from which American universities have strayed too far in the interests of convenience and mass production. Units of credit, intricate grading systems, a highly cyclical calendar, and restrictive course enrollment requirements may serve efficiency, but in our view they tend to interfere with the proper processes of education. We propose moving away from these rigid structures and adopting arrangements that will facilitate instead of hinder educational objectives.

The Calendar & Schedule

Stanford has come to regard classroom meetings as the basic measuring unit for standard course work. For example, a three-unit course is expected to meet at least 30 times in class and to hold a two-hour examination on one of five days following the end of classes. The final three class meetings occur in "dead week," during which time extracurricular activities are curtailed and (according to the *Information Bulletin*) "no quizzes or examinations should be given, and extra or special assignments should not be made." Laboratory and performance courses differ from this schedule, and some instructors exercise their right to depart from the ordinary pattern. Nevertheless, for the student enrolled principally in standard courses, the regular pattern is ten-plus weeks of classroom instruction followed by a week of examinations.

Our recommendations for the undergraduate curriculum call for an increasingly rapid transition toward more independent and honors courses and more self-directed work in the form of individual research, special projects, and extensive papers in regular courses. In order for this transition to be successful, both faculty and students must break away from the notion that the fifty-minute classroom session is the best use of academic time. Accordingly, we recommend that:

17. Both faculty and students should look upon the class schedule not as a commitment but as a reservation of time and space for use as needed. The number of times a class will meet and the length of each session should be determined by the instructor in accordance with the nature of the course material and the needs of the students.

We see no need to force an instructor to fit his course into a fixed number of consecutive weeks. We acknowledge the desirability of a common starting date for an academic term, but there is no reason to require a common stopping date. What is required of an academic calendar is simply that it make adequate and mutually exclusive reservations of time for three different functions:

1. Formal academic appointments (classes, seminars, tutorial conferences, etc.: in short, "instruction").

2. Examinations.

3. Periods free from formal academic appointments and examinations during which students may concentrate on their self-directed work or review, synthesize, and reflect on what they have learned, each at his own pace. These we shall identify as "reading periods."

The present calendar is deficient in the last of these respects. We recommend that:

18. The academic calendar should be modified to include a two-week reading period, free of scheduled academic obligations, prior to the examination period at the end of each term.

The principal objections to such a plan are obvious. First, there are students who would undoubtedly waste the time. Second, the time set aside for a reading period would reduce the amount of time available for instructional purposes. As to the first, we think that it is a risk worth taking. A few students might forsake the library for the beach or the mountains, but we have confidence that the great majority would make good use of the time. Experience at schools that schedule reading periods, such as Harvard and Yale, has indicated that most students benefit from the opportunity to work entirely on their own for short periods of time. Finally, we can think of no better preparation for the individual work of graduate education or for the process of continuing self-education once a student has finished his formal schooling.

The second objection seems dispelled by comparison of our current calendar with the calendars of a representative group of American universities. The amount of time set aside for formal academic appointments varies from 24 weeks of instruction per year at Harvard to 30 weeks at MIT and Caltech. Stanford's present 31 weeks of instruction places us at the top of the range, providing some latitude within which to work if we are willing to concede that national norms allow suitable time for instruction.

We believe that total annual instructional time can safely be cut to 28 weeks in order to make room for reading periods. This raises the perennial two-term vs. three-term controversy. It is demonstrable that the two terms of a semester calendar are better suited to the inclusion of reading periods than the three terms of our present calendar since adequate reading periods under the quarter system reduce the instructional time to nine weeks or less. Other advantages of the semester calendar are:

1. A longer term provides time for absorption of the material, a characteristic that is especially important in humanities and social science courses. It also provides more time for the acquisition of special vocabularies and underlying concepts in the sciences and engineering.

2. A two-term calendar results in less starting and stopping. There are both financial and psychic savings in "changing seats" just once, instead of twice, each year.

3. It is easier to have a ten-week course under a semester calendar than a fifteen-week course under a quarter calendar.

4. Four courses a year on the semester system represents a more manageable teaching load than six courses a year on the quarter system for those faculty members whose normal load is two offerings per term.

We are aware that previous samplings of faculty opinion have shown a nearly equal division of preferences, with a two-term calendar favored in the humanities and social sciences and a three-term calendar favored in the natural sciences and engineering. We found the same split in an interview survey conducted last year. We see nothing wrong, however, at this stage in Stanford's history, in making accommodations that will help to strengthen programs in the humanities and the social sciences. Furthermore, these calendar preferences were expressed without full consideration of the best context for a reading period, a feature of predominant importance in our recommendations.

A questionnaire survey of last year's senior class showed a preference for the three-term calendar among students, but again these responses were made without serious attention to the reading period. It is interesting to note, however, that those students who had achieved the best academic records, and those who were honors students, showed a greater inclination toward the semester calendar (see Appendix 1).

In the light of the above considerations, and with special concern for securing the advantages of the reading period, we recommend that[7]:

19. The University should adopt a semester calendar, in which the academic year begins immediately after Labor Day and ends late in May.

Alternate 1: **If the above recommendation is rejected, the University should adopt a semester calendar in which the academic year begins late in August to allow completion of the fall term before the Christmas holiday.**

---

[7] Prof. Lederberg is concerned that Recommendations 19 and 21 may hinder access of undergraduate students to certain specialized courses.

Alternate 2: **If both of the above recommendations are rejected, the University should adopt a quarter calendar in which instructional periods are shortened to nine weeks per quarter, followed by reading periods of one and a half weeks.**

On the following page is a graphic representation of proposed and present calendars, as well as the calendars in use at other leading universities.[8] Each semester in the calendar proposed in our principal recommendation would include a fourteen-week instructional period, followed by a two-week reading period and a six-day examination period. There would be a two-week break over Christmas followed by a two-week reading period, followed by examinations. There would also be a one-week break at Easter. The first term reading and examination periods come *after* the Christmas break in our principal recommendation and *before* it in our first alternative. We prefer the principal recommendation because it more closely conforms to established vacation and summer work patterns.

Courses & Credit

American higher education remains pluralistic and its students mobile. The unit-credit system, which has developed to facilitate student transfer in the educational system as a whole, is of little value to Stanford for this purpose.

---

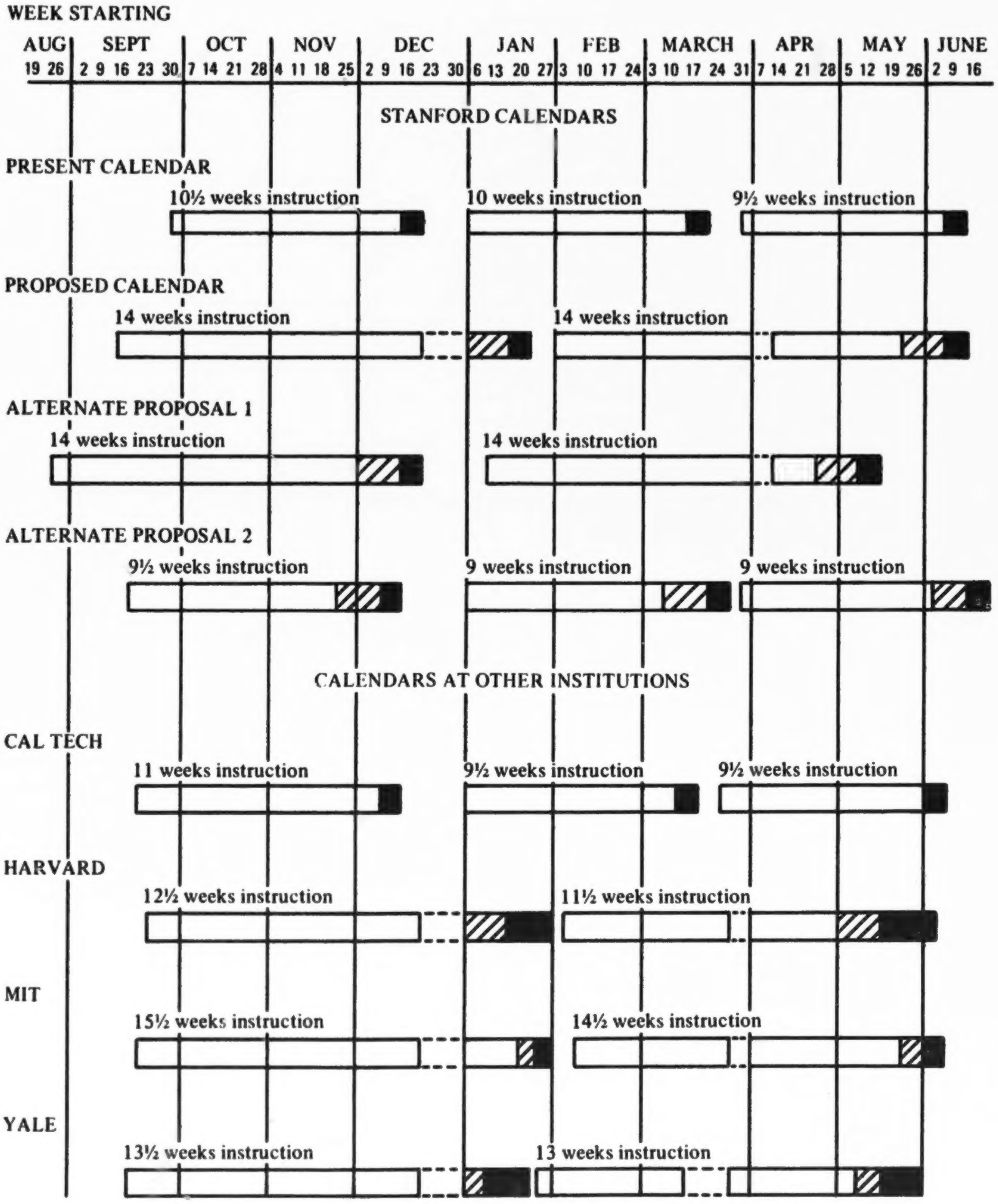
[8] The National Education Association obtained calendar information from 1,065 colleges and universities, which it published in its *Research Report, Salaries in Higher Education 1967–68*. Following is a summary showing calendars in effect at various kinds of institutions.

Types and Enrollment	Quarter %	Semester %	Other %	(N)
Independent universities				
Over 5,000	8	81	11	37
Under 5,000	16	80	3	61
Independent colleges	15	77	7	623
Public universities				
Over 5,000	30	66	4	132
Under 5,000	28	68	4	47
Public colleges	28	64	8	165
Total	20	74	7	1,065

Reading period ▨

Exam period ■

Academic Calendars (Based on 1968–69 calendar)



Our student population is quite stable, with incoming undergraduate transfers numbering about 400 annually, and outbound transfers estimated at about 200 each year.

The unit-credit system is also assumed to measure work loads in various courses. According to the *Information Bulletin*, "Every unit for which credit is given is understood to represent approximately three hours of actual work per week for the average student." This implied degree of precision and of consistency among courses and departments is illusory, a fact quickly established through consultation with students. Departments differ widely in their practices, and students with the same "average" ability differ in their facility to do work in different areas.

The total units for which a student enrolls in any quarter fails, in our view, to measure his actual load. Rather we believe that with respect to courses the number of different subjects being pursued at the same time defines the limit of intellectual activity which a student can profitably pursue over a limited time period. We therefore recommend that:

20. The unit-credit system should be replaced by a course-credit system. A "course" should not be quantitatively determined by contact hours, number of days per week, etc., but should be determined by the individual instructor, subject to departmental approval. Four courses per semester (or three per quarter) should represent the standard academic load. The maximum regular load should be five courses (four under the quarter system); the minimum, three courses (two under the quarter system). Thirty-two courses (36 under the quarter system) should be required for the bachelor's degree.

This change will result in a considerable reduction in the number of courses completed by most undergraduates: the current average is approximately 50 courses, not including single-unit performance and physical education courses. It will also necessitate a reduction of course requirements in some fields. We believe that these are desirable objectives, encouraging study in depth of a few subjects at a time rather than a frantic and often superficial pursuit of large numbers of courses.

Adoption of the course-credit system will no doubt require the restructuring of many courses presently listed for three or four units. It will also alter the status of courses presently carrying one or two units. Some of these courses in academic areas might be developed or combined to become regular courses under the new system. But performance courses, such as those which offer credit for participation in music or dramatic groups, physical education courses, and some fragmentary academic courses now listed for one or two units, should be offered on a non-credit, voluntary basis. Such activities should be pursued because of their intrinsic value and not in exchange for the bribe of a unit or two.

In order to reduce dependence on tokens of academic reward for non-academic or quasi-academic work, and in order to simplify academic bookkeeping, we recommend that:

21. No fractional courses should be offered. We also recommend that unusually extensive courses, or courses continuing over more than one term, be listed as multiple (double, triple) courses upon request of the sponsoring departments.

One of the difficulties faced by students in planning their schedules is the assessment of the amount and nature of the work expected of them in particular courses. The elimination of the unit-credit system will remove one of the few indicators, however unreliable, of the work load. A student can usually count on a five-unit course taking more time and effort than a three-unit course; and when the total on the class card adds up to 15 units, he can be reasonably sure that he has struck a balance between progress and exhaustion.

Without units, the student will be forced to rely on the catalogue, his adviser, the campus grapevine, and such student-managed evaluative devices as the scratch sheet: all imperfect sources for the purpose of judging work load. We think that it will be important under the course system (as it also is under the present system) for each instructor to inform his potential students of the nature and demands of his courses. Information that will convey a concise description of the content, structure, and expectations of the course should be provided *in advance* so that students can intelligently piece together their schedules. We therefore recommend that:

22. Each department should assume responsibility for the publication and dissemination, before preregistration for each term, of a detailed course description for each regular course. Descriptions should be prepared or verified by the instructor and should contain such information as the reading list, the number of projected class meetings, projects, papers, the examination pattern, essential and desirable prerequisites, etc.

This proposal is similar to a plan recently suggested by the ASSU Academic Affairs Committee. Our plan differs in that we propose that departments take sole responsibility for disseminating this information in order to avoid the cumbersome process of accumulating a massive, University-wide collection of course descriptions. The statements could be mimeographed and either posted on departmental bulletin boards or distributed on request from the department office. We count on our students to be sufficiently resourceful to get this information on their own initiative. If a student group wishes to take the initiative of assembling and distributing course descriptions, as proposed by the ASSU committee, we would applaud their efforts.

Examinations

For many students, academic examinations are only traumatic experiences. They have no precise counterpart in post-university life, with the exception of the licensing exams some professionals must surmount, and these usually only once. Nevertheless, examinations do serve some important functions in our system. They are indicators to faculty and students of achievement and readiness to move to a higher level. At their best they can be incentives to synthesize and interpret knowledge. They may also provide feedback, which can help the student to channel his energy and interest. Our efforts should be directed, therefore, to the improvement of the examination system and its relation to other work.

The form of a course examination is often dictated by non-academic considerations, particularly by a shortage of time in which to read essay examinations. All too often the result is the short answer, multiple choice, or true/false exam, which often rewards rote memorization rather than comprehension. This is particularly exasperating in final examinations and encourages superficial preparation instead of the thoughtful review that serves learning and understanding. We therefore recommend that:

23. Faculty members should be urged to employ essay examinations wherever appropriate. In order to encourage such examinations, a minimum of two weeks should be allowed between a final exam and the date on which course grades must be filed with the Registrar.

Although examinations are important and we should continue to look for ways to improve them, they do not correspond to the kind of work that our students will be doing in the future. The carefully developed paper more closely approximates scholarly or other professional work than a multiplicity of exams. We recommend that:

24. Where appropriate, faculty members should shift the emphasis of evaluation from conventional examinations to take-home examinations and papers.

Such a shift will increase the burden of reading and judging student work. We urge that instructors be given additional help in the form of teaching assistants to serve as readers.

If the evaluation of a student's paper is to contribute to his academic progress, it must pay attention to the form of expression as well as to the substance. Not only should instructors concern themselves with student writing, but teaching assistant-readers should be selected for their ability to criticize and thus improve literary style.

We recognize the value of comprehensive examinations administered as partial fulfillment of a major or program. Any department now employing limited comprehensives should not be discouraged from doing so, but we do not recommend general use of comprehensives. Our failure so to recommend is based solely on scarcity of resources. Extensive use of comprehensives would divert time and energy away from other, more important activities. We would rather see any available faculty time allotted to the supervision of honors and independent work.

Course Credit by Independent Study

We presently require that students formally enroll in courses in order to receive credit towards a degree. This arrangement seems to put a premium on academic routine rather than education. If a student has mastered a subject through his own reading and through exposure in other contexts, we see no reason for him to go through the motions of a regular course. We see little justification for holding back a student who wishes to hasten his formal education by acquiring knowledge entirely on his own. In order to accommodate the exceptionally energetic or talented student, we recommend that:

25. It should be made a matter of University policy that regular credit for any course (except where the instructor deems this is inappropriate) can be earned through satisfactory completion of a written or oral examination (or such other performance indicia as may be specified by the instructor) without requiring that the student be formally enrolled in the course.

Since the setting of guidelines for such exams would be in the hands of the departments, each could see that its standards for credit were maintained. The College Entrance Examination Board has recently developed a number of college-level achievement exams that might meet, in whole or in part, departmental specifications. Individual departments should explore the utility of these and other available course examinations. In many cases the standard course examination or term paper should suffice.

This arrangement for credit by independent study should offer a routine way for meeting departmental proficiency requirements without formal course work. A special examination fee should be charged to reduce irresponsible use of this privilege and to compensate for the time required to prepare and administer special exams.

Advanced Placement by Examination

The College Entrance Examination Board now administers achievement tests at a large and growing number of high schools. Stanford awards limited advanced placement to students scoring 4 or 5 on these tests. In addition, our language and mathematics departments administer placement tests to entering students. Studies of advanced placement tests indicate that they are effective measures of preparation in high school subjects such as language, science, and math, and that they are satisfactory indicators of preparation to engage in advanced work at the college level.

In keeping with our desire to encourage students to pursue elementary work in these fields before coming to college, we urge greater recognition of advanced placement tests as follows:

26. Advanced standing and full college credit should be awarded to students scoring 3 or above on advanced placement tests. Departments should have the right to appeal to the Committee on Undergraduate Studies for the right to deny or modify advanced standing for those scoring 3 and to direct students to more elementary courses (with consequent adjustment of advanced placement credit) if they prove not to be prepared for advanced work. The present limit of 45 units of advanced standing should be removed, although freshman status should still be the rule for first time college-level students.

Grading

When Stanford first opened its doors, the only grades were "pass" and "fail." In response to student demands for more precise evaluation of work, the letter grade system was introduced early in this century, at first informally, and then officially. The present "A" through "F" system, which is similar to that employed in most American colleges and universities, contains 13 passing designations (including plus and minus supplements to letter grades, and "pass") and some half-dozen other marks indicating outright failure or failure to complete course work. The letter grades (ignoring plus and minus designation) are assigned numerical values for computation of grade point averages to two decimal places. This system implies a degree of precision which, in our view, is misleading.

Grades are intended to provide the student with feedback, reward, and motivation. More importantly, they are supposed to inform others of a student's ability and potential, thus influencing entry into graduate school and future employment. Yet a recent review of some 46 studies of the relation between college grades and adult achievement (however defined) shows virtually no correlation between the two.[9] Grades are an important but variable factor in admission to graduate programs. Practices differ, but it is rare indeed for a graduate school or department to rely predominantly on grade point average in the selection of students. We therefore see no justification in clinging to a system that leads to the computation of deceptively refined grade point averages on the ground that it serves as a useful screening device. We recommend that:

27. Routine computation of grade point averages should be abandoned. Student transcripts should be made more easily available to faculty members for their use in providing guidance to students.

The use of plus and minus supplements to letter grades, like the use of grade point averages, suggests a degree of discrimination which is not often found in practice. At the very least, the plus-minus modifiers should be abandoned. Some of us would have preferred a simple two-grade system of "honors" and "pass." However, because many departments in engineering and the sciences can more precisely measure student work, we concluded that three levels of passing grades are justified. We considered a change to designations such as "honors," "high pass," and "pass," but concluded that it would be simpler to continue with the familiar "A," "B," and "C," shorn of pluses and minuses.

---

[9] Donald P. Hoyt, *The Relation Between College Grades and Adult Achievement*; American College Testing Program.

Definition of letter grades is always a problem. The curve concept, although still the official policy of the University, has been abandoned in most courses. We believe that the abandonment should be made explicit and that instructors should be free to allocate grades without regard to norms of distribution. Some absolute definition, however circular, of letter grades therefore becomes necessary. We therefore recommend that:

28. For undergraduate work, "A" should denote exceptional performance, "B" superior performance, and "C" satisfactory performance.

During the past ten years there has been a significant upward shift in the average grades given Stanford undergraduates. This probably reflects improvements within the secondary schools and, more certainly, the unusually high caliber of our undergraduates. Almost all of those entering Stanford come from the top 2 or 3 percent of the nation's high school graduates, and more than 4 out of 5 complete their baccalaureate work on schedule, a rate nearly twice the national average. At present, less than 4 percent of the grades given Stanford undergraduates are "D" grades, and the number of "F" grades is even smaller. Given these facts and trends, we think that the present "D" and "F" grades should be eliminated, and that the sole penalty for failing to complete a course satisfactorily should be the loss of credit toward graduation. Furthermore, since the motivation for successful completion of a course should be progress toward the degree and not fear of failure, we believe that the student's transcript should become a record of work completed rather than work attempted.

Students are now permitted, under a three-year experiment, to undertake one course per quarter outside the major and General Studies requirements on a pass or fail basis, subject to the instructor's approval and to a maximum limit of 27 units. This option appears to work well and encourages students to undertake work in fields in which their competence or confidence is low.[10]

[10] Colleen Wright Rand, *The Pass-Fail Option–An Evaluation of the Stanford University Experience*, mimeo: 1967.

Since students usually want more accurate feedback from their courses and are under pressure from graduate schools to demonstrate their intellectual abilities, they are not likely to abuse this privilege if it were made readily available. Few students would wish a final transcript dominated by "pass" grades. We therefore make the following recommendations with regard to grading practices:

29. a. The only passing grades assigned for course work should be "A," "B," and "C," or "pass." Students should have the privilege of repeating a course in order to improve a grade, and only the higher grade should be shown on the transcript.

b. The present "D" and "F" grades should be eliminated, and the sole penalty for failing to complete a course satisfactorily should be the loss of credit toward graduation.

c. Students should be permitted to drop a course at any time, with concurrent loss of credit. When a student needs further time satisfactorily to complete a given course, in accordance with requirements set by his professor, this may be temporarily indicated with a "x" on his transcript. If the course is not completed within the time specified by the instructor, all reference to it would then be removed from the transcript.

d. The "pass" option should be extended to include any course, subject only to the consent of the instructor and the department concerned. No limit should be placed on the number of "pass" courses that a student may take.

Eligibility for Continued Enrollment

With the proposed elimination of numerical grade values we will need a new mechanism to determine eligibility to continue studying at Stanford. The criterion should be satisfactory progress toward a degree. Normal progress toward the bachelor's degree under the semester-course system would be the completion of 8 courses at the end of the first year, 16 at the end of the second, and 24 at the end of the third; 32 courses would be required for the completion of the degree. We recommend that:

30. In order to remain eligible to continue studying at Stanford, a student must satisfactorily complete at least 6 semester courses by the end of his first year, 13 by the end of the second, and 21 by the end of the third, (6, 14, and 23 under the quarter system). A student deviating from this schedule may continue with the written approval of both his adviser and the Dean of Undergraduate Studies, obtained after conference with these persons.

Summary of Recommendations

Curricular Programs and Policies

1. The University curricular policies and requirements for the freshman year should be as follows:

   a. For each student, a one-semester writing experience integrated with a course, which may but need not be Freshman English.

   b. For each student, a one-semester course in historical studies.

   c. For as many students as possible, a first-semester Freshman Tutorial taught by a regular faculty member and directed either toward conveying the style of intellectual inquiry in his field of knowledge or toward illuminating the relationships between his and other fields of knowledge, or toward both.

   d. For all students enrolled in Freshman Tutorials (so designated by the instructor) whose performance in the first-semester tutorial demonstrates adequate capacity, a second-semester tutorial devoted to independent research and writing.

   e. It is the University's policy that to the extent possible requirements a. and b. should be met through the Freshman Tutorial. (p. 17)

2. University undergraduate policies and requirements beyond the freshman year should be:

a. Each student must take at least two semester courses in each of the three following areas, over and above the courses that he takes in satisfaction of freshman year requirements: humanities, social sciences, natural sciences and technology.

b. Undergraduates are advised to equip themselves with proficiency in a foreign language and to acquire an acquaintance with a literature and culture associated with that language. (p. 20)

3. Where special circumstances so warrant, the Dean and Committee of Undergraduate Studies should have the authority to apply modifications of the policies and requirements stated in Recommendations 1 and 2. (p. 20)

4. Upon the adoption of changed requirements for graduation from the University, each candidate for the degree of Bachelor of Arts or Bachelor of Science enrolled in the University at the time of such adoption shall be deemed to have satisfied his General Studies requirements if he has satisfactorily completed:

a. One semester (or two quarters) of Freshman English or other writing course.

b. One semester course (or two quarter courses) of historical studies.

c. Two semester courses (or three quarter courses) in each of the following areas: humanities, social sciences, and natural sciences and technology. (p. 20)

5. Each school or department should be permitted to prescribe not more than one-half of the undergraduate major's total program, including courses required to be taken in fields other than the field of concentration. (p. 21)

6. The School of Engineering should provide optional degree programs that meet the limitation expressed in Recommendation 5. (p. 22)

7. Any student at any stage in his undergraduate career should be entitled to formulate a plan of concentration with the approval of a member of the Academic Council, who will take responsibility for direction of the program. Such a program will become the student's major upon approval by the Dean and Committee of Undergraduate Studies or their delegates. (p. 23)

8. A limited number of our most promising students should have the opportunity of designing their entire undergraduate program free of all formal concentration or distribution requirements under a new University Honors Program. (p. 24)

9. A general education college should be established under the supervision of the Dean and Committee of Undergraduate Studies. Work in the college would ordinarily extend over the freshman and sophomore years. Adequate academic space should be reserved for the exclusive use of this college, not necessarily on a residential basis. (p. 25)

10. The Dean and Committee of Undergraduate Studies should be specifically charged with responsibility for working with departments to develop new course offerings primarily intended for non-specialists. In this effort they should have the assistance of the Fellows of the University. (p. 29)

11. The University's fund-raising activity should give a high priority to augmenting the Innovation Fund established under the Ford Foundation grant. One percent of the annual instructional budget is a useful first target. (p. 29)

12. Areas that call for early attention in new course development include: science and technology for the non-specialist; mathematics and computer science for the non-specialist; interdisciplinary and problem-oriented studies in the humanities and the social sciences; professional school offerings for the undergraduate; and the practicing arts. (p. 29)

13. The Dean and Committee of Undergraduate Studies should be given responsibility for encouraging the whole area of independent studies and honors work, and some portion of the resources available, including the Innovation Fund recently granted by the Ford Foundation should be employed for this purpose. The Dean and Committee of Undergraduate Studies should work with departments to establish programs in which a number of carefully selected students would spend their entire senior year doing independent work. Each student in this program would work under the guidance of a faculty member. (p. 31)

14. The designation "with great distinction" should be reserved for those students who complete an exceptional piece of independent work, either individually or as part of an honors program, and whose overall academic records fall above some established level (e.g., more "A's" than "B's" and "C's"). All other students completing an exceptional piece of independent work should receive degrees "with distinction." The criteria for "exceptional independent work" should be determined by the major department, school, or committee. (p. 32)

15. The ASSU, working together with the Dean of Students, should establish a social service clearing house, to serve as an information and coordination center for field work that stresses social service. It should work with students, faculty, and off-campus agencies in helping to arrange for various kinds of field experience. (p. 33)

16. Each appropriate department should establish a regular course entitled Directed Field Research, somewhat akin to Directed Individual Research, which would be listed in Courses and Degrees. The Dean and Committee of Undergraduate Studies should be given responsibility for encouraging and coordinating all field work conducted as part of the academic curriculum. (p. 33)

Academic Bookkeeping

17. Both faculty and students should look upon the class schedule not as a commitment but as a reservation of time and space for use as needed. The number of times a class will meet and the length of each session should be determined by the instructor in accordance with the nature of the course material and the needs of the students. (p. 36)

18. The academic calendar should be modified to include a two-week reading period, free of scheduled academic obligations, prior to the examination period at the end of each term. (p. 37)

19. The University should adopt a semester calendar, in which the academic year begins immediately after Labor Day and ends late in May.

Alternate 1: **If the above recommendation is rejected, the University should adopt a semester calendar in which the academic year begins late in August to allow completion of the fall term before the Christmas holiday.**

Alternate 2: **If both of the above recommendations are rejected, the University should adopt a quarter calendar in which instructional periods are shortened to nine weeks per quarter, followed by reading periods of one and a half weeks. (p. 38)**

20. The unit-credit system should be replaced by a course-credit system. A "course" should not be quantitatively determined by contact hours, number of days per week, etc., but should be determined by the individual instructor, subject to departmental approval. Four courses per semester (or three per quarter) should represent the standard academic load. The maximum regular load should be five courses (four under the quarter system); the minimum, three courses (two under the quarter system). Thirty-two courses (36 under the quarter system) should be required for the bachelor's degree. (p. 41)

21. No fractional courses should be offered. We also recommend that unusually extensive courses, or courses continuing over more than one term, be listed as multiple (double, triple) courses upon request of the sponsoring departments. (p. 42)

22. Each department should assume responsibility for the publication and dissemination, before preregistration for each term, of a detailed course description for each regular course. Descriptions should be prepared or verified by the instructor and should contain such information as the reading list, the number of projected class meetings, projects, papers, the examination pattern, essential and desirable prerequisites, etc. (p. 42)

23. Faculty members should be urged to employ essay examinations wherever appropriate. In order to encourage such examinations, a minimum of two weeks should be allowed between a final exam and the date on which course grades must be filed with the Registrar. (p. 43)

24. Where appropriate, faculty members should shift the emphasis of evaluation from conventional examinations to take-home examinations and papers. (p. 44)

25. It should be made a matter of University policy that regular credit for any course (except where the instructor deems this is inappropriate) can be earned through satisfactory completion of a written or oral examination (or such other performance indicia as may be specified by the instructor) without requiring that the student be formally enrolled in the course. (p. 44)

26. Advanced standing and full college credit should be awarded to students scoring 3 or above on advanced placement tests. Departments should have the right to appeal to the Committee on Undergraduate Studies for the right to deny or modify advanced standing for those scoring 3 and to direct students to more elementary courses (with consequent adjustment of advanced placement credit) if they prove not to be prepared for advanced work. The present limit of 45 units of advanced standing should be removed, although freshman status should still be the rule for first time college-level students. (p. 45)

27. Routine computation of grade point averages should be abandoned. Student transcripts should be made more easily available to faculty members for their use in providing guidance to students. (p. 46)

28. For undergraduate work, "A" should denote exceptional performance, "B" superior performance, and "C" satisfactory performance. (p. 47)

29. a. The only passing grades assigned for course work should be "A," "B," and "C," or "pass." Students should have the privilege of repeating a course in order to improve a grade, and only the higher grade should be shown on the transcript.

b. The present "D" and "F" grades should be eliminated, and the sole penalty for failing to complete a course satisfactorily should be the loss of credit toward graduation.

c. Students should be permitted to drop a course at any time, with concurrent loss of credit. When a student needs further time satisfactorily to complete a given course, in accordance with requirements set by his professor, this may be temporarily indicated with a "x" on his transcript. If the course is not completed within the time specified by the instructor, all reference to it would then be removed from the transcript.

d. The "pass" option should be extended to include any course, subject only to the consent of the instructor and the department concerned. No limit should be placed on the number of "pass" courses that a student may take. (p. 48)

30. In order to remain eligible to continue studying at Stanford, a student must satisfactorily complete at least 6 semester courses by the end of his first year, 13 by the end of the second, and 21 by the end of the third, (6, 14, and 23 under the quarter system). A student deviating from this schedule may continue with the written approval of both his adviser and the Dean of Undergraduate Studies, obtained after conference with these persons. (p. 49)

Appendix 1

Summary of a Questionnaire Survey of the Class of '68

Part 1 The Sample and Some of Its Characteristics

Late in spring quarter '68, a seven-page questionnaire was mailed to all graduating seniors. Approximately 53 percent of the questionnaires, or 660, were returned completed, excluding from the calculation those that were returned by the Post Office due to incorrect address.

An effort was made to determine the representativeness of the 53 percent sample on three characteristics: the sex ratio, the distribution among major departments, and the percentage who were in honors programs. The percentage of males in our sample is 71 percent, as compared with 70 percent for the undergraduate student body as a whole. There are no differences greater than 2 percent between the major departments of the sample and those of the 1,490 graduating seniors. Participants in honors programs are slightly over-represented in our sample: 13 percent as against 10 percent for the class as a whole.

For the purposes of this paper, departments were grouped into four categories. The following table shows the original distribution (figures are rounded to the nearest whole percent), and the category into which each department was put. A hyphen means less than 1 percent.

Department	*% of sample*	*Category*
Biological Sciences	8	Science
Chemistry	3	
Physics	3	
Physical Science	-	
Mathematics	4	
Statistics	-	
Geology	-	
General Engineering	2	Engineering
Chemical Engineering	1	
Electrical Engineering	2	
Mechanical Engineering	2	
Industrial Engineering	-	
Aeronautics and Astronautics	-	
Economics	12	Social Science
Political Science	11	
Psychology	9	
Anthropology	2	
Sociology	2	
Communication	2	

Department	*% of sample*	*Category*
English	11	Humanities
History	14	
Humanities Special Programs	-	
Classics	-	
Philosophy	1	
French & Italian	2	
German, Spanish, Russian	2	
Asian Languages	-	
Art & Architecture	2	
Music	-	
Speech & Drama	-	

In the tables that follow, 11 students majoring in a department of the Medical School are excluded; it seemed unusually unfair to put them into one of the four categories. The following breakdown obtains for most of the tables in this paper:

Engineering	58 students	9%
Science	120 students	19%
Social Science	242 students	38%
Humanities	222 students	35%

Some other background characteristics of the sample are shown below.

Attended an overseas campus	49%
[illegible]d to Stanford	21%
[illegible] financial aid	41%
[illegible] to do graduate work	84%
Have a specific career goal	61%

Overall grade point average

A	A–	B+	B	B–	C+	C	C–
4%	15%	24%	21%	21%	9%	4%	1%

Overall grade point average by area of major

	A, A– *%*	*B+* *%*	*B* *%*	*B–* *%*	*C+ and under* *%*
Engineering	10	26	17	29	17
Science	27	18	25	18	12
Social Science	17	24	17	22	19
Humanities	19	28	24	20	9

(The differences shown above are unexpectedly large. Since the students in our sample are anonymous, we cannot completely check these results. A comparison with the GPA's of all graduating seniors, grouped as above, can be made; unfortunately, time does not now permit such a comparison.)

Type of housing longest lived in while at Stanford

	Dormitory	*Fraternity*	*Off*	*Home*
Males	33%	31%	34%	2%
	Dormitory	*Row*	*Off*	*Home*
Females	76%	15%	8%	1%

Memberships:

	Fraternity	*Eating Club*	*Neither*
Males	41%	14%	45%

Part 2

Here we will present and discuss those areas of the senior questionnaire data that are particularly relevant to the recommendations made in the body of this report. There are five such areas: 1) experience with independent work and evaluation of its rewards; 2) some of the experiences and evaluations of honors students and non-honors students; 3) differences in participation and interest in language courses between males and females and between types of majors; 4) differences in participation and interest in mathematics, statistics, and computer science courses between males and females and between types of majors; and 5) preferences for different types of academic calendars.

Independent Work

For several different classroom situations, students were asked to indicate the degree to which each situation was represented in their own academic programs. They also rated each situation on the degree to which they found it "intellectually rewarding." The following table shows the relationship between these two aspects, experience and evaluation, for the "situation" of independent work. The percentages sum across rows; each row indicates, for a given category of experience, the percentage evaluating its rewards as high, medium, and low.

Table I

Independent Work

Degree present in own program	*How intellectually rewarding*		
	High	*Medium*	*Low*
	%	%	%
High	85	10	4
Medium	72	24	3
Low	53	27	20

Table I reveals a large and enthusiastic market for independent work. Across all levels of experience, better than 50 percent find independent work to be highly rewarding. That the amount of high evaluations decreases as experience decreases suggests that lack of opportunity does not alone account for low experience; at least some students do not participate extensively in independent work because they do not find it highly rewarding (e.g., the 20 percent in the bottom right cell of Table I).

The two summary tables that follow show some of the data for other classroom situations: seminars, medium-sized lecture-discussion classes, and large-sized lecture classes. Table II shows, by area of major, the percentage who report having had a high amount of experience in each situation. Table III shows, for those who were high on experience, the percentage who rated each situation as highly rewarding.

Table II

Percentage reporting a high degree of experience, by classroom situation, by area of major

	Engineering %	*Science* %	*Social Science* %	*Humanities* %
Independent work	11	24	18	18
Seminars	17	9	18	33
Medium-sized lecture-discussion	80	67	75	68
Large lectures	28	63	64	50

Table III

Of those reporting high experience, percentage evaluating experience as highly rewarding, by classroom situation, by area of major

	Engineering %	*Science* %	*Social Science* %	*Humanities* %
Independent work	86	93	85	79
Seminars	89	80	83	87
Medium-sized lecture-discussion	54	46	45	54
Large lectures	7	18	17	23

It will be noted that there are not many large differences between areas of major; as might be expected, there *are* large differences between types of situation, both in experience and evaluation. Except for a slight tendency for women to prefer seminars to independent work, there were no significant differences by sex in any of these tables.

It is interesting to compare the percentages for independent work with those for seminars: whichever is "experienced" more according to Table II is also found to be more rewarding according to Table III (except for the social sciences, where there is no difference in Table II and very little difference in Table III). The rank-order similarity also is found when medium and large classes are compared. The two tables viewed in this way support the conclusion that, where there is a choice, students will select the situation that they find more rewarding (medium over large classes, and either seminars over independent work [humanities and engineering] or vice-versa [sciences and social sciences]).

Honors Students

The following tables show some of the ways in which the honors students in our sample differ from the non-honors students.

Overall grade point average

	A, A– *%*	*B+* *%*	*B* *%*	*B–* *%*	*C+ and under* *%*
Honors	**44**	**28**	**18**	**7**	**3**
Non-honors	**15**	**24**	**22**	**24**	**15**

Percentage attending overseas campus

	%
Honors	**54**
Non-honors	**48**

Year enjoyed the most

	Freshman *%*	*Sophomore* *%*	*Junior* *%*	*Senior* *%*
Honors	**4**	**13**	**31**	**52**
Non-honors	**4**	**13**	**22**	**60**

Percentage planning to do graduate work

Honors	**98**
Non-honors	**82**

Anticipated graduate field

	Major *%*	*Medicine* *%*	*Law* *%*	*Business* *%*	*Education* *%*	*Other* *%*
Honors	**54**	**15**	**11**	**12**	**5**	**2**
Non-honors	**33**	**12**	**20**	**14**	**16**	**5**

Percentage who would select the same major department

Honors	**79**
Non-honors	**69**

Percentage "highly satisfied" with scholarly focus of major department

Honors	**42**
Non-honors	**31**

Percentage "highly satisfied" with department advising

Honors	**21**
Non-honors	**13**

Percentage "highly staisfied" with opportunities for independent work

Honors	72
Non-honors	22

Percentage "highly satisfied" with faculty interest in undergraduates

Honors	42
Non-honors	23

Students who were in honors programs are much more likely to have graduate school plans and to plan continuing work in their undergraduate fields. In several areas, they are also more likely to evaluate highly their major departments.

One cannot tell from the tables whether honors programs attract students with graduate plans or whether the participants develop such plans; most likely, some combination of the two occurs.

Language Courses

The following table shows the percentage of students taking foreign language courses at Stanford, by area of major.

Engineering %	*Science* %	*Social Science* %	*Humanities* %
39	94	88	97

Students were asked to indicate their reasons for taking foreign language courses by checking as many reasons as applied on the list shown below. This table shows the percentage checking "Yes" for each reason, by major area, by sex.

Reason	Engineering		Science		Social Science		Humanities	
	Male %	*Female* %	*Male* %	*Female* %	*Male* %	*Female* %	*Male* %	*Female* %
Enjoy learning languages	65	0	68	77	49	72	65	77
Wanted to go overseas	60	0	54	45	54	77	66	71
Think languages important	73	0	71	77	69	68	75	78
Relevant to major	26	0	60	54	23	24	47	48
Required by major	13	0	62	59	7	8	30	35
Preparation for graduate school requirement	21	0	45	40	16	11	27	19
General Studies requirement	8	0	16	47	68	65	56	62

Of course, reasons are very tricky things to analyze. Most students checked more than one reason; one cannot know, however, whether if one reason were removed from the scene, the other reasons would be sufficient to produce the same result.

Mathematics, Statistics, and Computer Science

Students were asked if they had taken any courses in these departments while at Stanford. The following table shows the percentage saying "Yes," by area of major.

	Engineering %	*Science* %	*Social Science* %	*Humanities* %
Mathematics	93	97	59	38
Statistics	96	44	72	36
Computer Science	95	60	31	12

Those students who said "No" were asked if they now wished they had taken such courses. The table below shows the percentage saying "Yes" to this second question; since virtually all engineering students took courses in all areas, they are excluded here.

	Science %	*Social Science* %	*Humanities* %
Mathematics	*	32	23
Statistics	34	27	12
Computer Science	67	60	42

*too few cases to be reliable

It is interesting to note the attitude toward courses in computer science: in the humanities, 12 percent took courses, 42 percent wish they had; in the social sciences, 31 percent took courses, 60 percent wish they had; and in the sciences, 60 percent took courses, 67 percent wish they had.

The Academic Calendar

Students were asked to rank three calendar alternatives in order of preference. The alternatives were stated as follows:

a) The quarter system as presently constituted at Stanford.

b) A two-semester system, with the first semester ending mid-year (after the Christmas holidays), and a reading period before exams.

c) A two-semester system with the first semester beginning early in the autumn, with the break occurring at Christmas time, and a reading period before exams.

The group as a whole ranked the alternatives as shown below.

		Rank	
	First	*Second*	*Third*
	%	%	%
Quarter	74	16	11
Traditional semester with reading period	6	23	71
Modified semester with reading period	24	54	22

Generally there was high unanimity in the rankings; in no case did we find the order of preferences to be different from that just shown. The strength of preferences varied somewhat; the following tables illustrate some of these differences between students. In each table, the number shown is the percentage ranking the alternative *first*.

	Engineering	*Science*	*Social Science*	*Humanities*
	%	%	%	%
Quarter	74	77	78	67
Traditional semester	6	5	4	9
Modified semester	19	23	23	29

	Honors	*Non-Honors*
	%	%
Quarter	67	75
Traditional semester	5	6
Modified semester	30	23

Overall grade point average

	A	*A–*	*B+*	*B*	*B–*	*C+ and under*
	%	%	%	%	%	%
Quarter	52	72	74	79	73	78
Traditional semester	8	8	6	4	7	5
Modified semester	42	23	24	21	26	21

Part 3 Other Aspects of the Questionnaire

A Broad Look at a Stanford Education

After general background questions, students were asked to indicate which year at Stanford they enjoyed the most, and which the least.

Year most enjoyed

Freshman	*Sophomore*	*Junior*	*Senior*
4%	13%	24%	58%

Year least enjoyed

Freshman	*Sophomore*	*Junior*	*Senior*
39%	29%	21%	11%

It should be noted that the Freshman Seminar Program, discussed in the body of this report, was not introduced until the year after our sample students were freshmen.

The same two questions were asked of graduating seniors in 1956; it is surprising that there were no significant differences in the response distributions at the two different times.

From a list of possible "goals of undergraduate education at Stanford," students were asked to check for each attribute the extent to which their educational experiences contributed to its development. There were notable differences in the responses of students in different major areas: the following table illustrates these differences.

Percentage saying Stanford education contributed "greatly" or "considerably" to the development of the listed attributes

	Engineering %	*Science* %	*Social Science* %	*Humanities* %
Interest in many fields of knowledge	69	71	76	64
Ability to express ideas clearly	43	42	63	60
Ability to see relationships among fields of knowledge	73	53	62	70
Development of aesthetic sensitivity and discrimination	48	39	44	59
Development of personal philosophy or system of values	59	50	60	65
Development of critical thinking	79	69	72	71
Greater understanding of individual and group behavior	71	56	70	68
Greater understanding of the scientific method	78	66	33	15
Development of creative thinking	36	34	33	38
Development of competence in one or more areas of knowledge	71	72	58	56

This set of questions was also asked in 1956 of a sample of graduating seniors. Again, the differences were negligible, with two exceptions: the overall rating of "Greater understanding of the scientific method" dropped approximately 20 percent, and "Development of creative thinking" dropped approximately 10 percent.

Students also evaluated the contributions of various groups and activities to their intellectual development. There were few differences by area of major; the table below shows response distributions for the group as a whole.

	Highly valuable	*Somewhat valuable*	*Slightly valuable*	*Of no value*
	%	%	%	%
Roommates and friends in living groups	60	25	12	3
Organized activities in living groups	6	16	39	39
Friends outside living groups	49	34	15	2
Formal contacts with faculty in courses	26	36	27	10
Informal contacts with faculty	32	28	27	13
Extracurricular student organizations	14	22	33	30
Political activist, or protest movements:				
1) campaigns for political parties and candidates	11	28	29	32
2) the civil rights movement	18	33	27	22
3) the anti-war movement	25	32	20	23
4) campus protest movements	14	18	29	39

An open-end question students were asked was that experience which they now felt was the most salient contributor to their educational development. Responses were coded into the categories shown below; again there were few differences by area of major.

Most salient contributor	%
Attending an overseas campus	22
Talking with and getting to know people with stimulating and varied opinions and viewpoints	21
Courses taken (often specifically identified)	9
Range and variety of courses and course work	5
Honors programs or independent work	5
Personal: moving off campus, quitting or joining a fraternity, being a sponsor, etc.	5
Specifically mentioned faculty members, presumably known through courses taken	4
External: Vietnam war, draft protests, civil rights activities, etc.	3
Major courses, program, requirements	2
Other personal: getting married, using pot, etc.	2
Didn't specify a contributor, or didn't answer the question	23

The percentage citing attendance at an overseas campus as the most salient contributor to their intellectual development is particularly striking because only half of our sample had this experience.

Some Hypothetical Questions

Students were asked, "Had a major in computer science been offered, would you have majored in that department?" with the following results.

Would major in computer science

	Yes %	*Maybe* %	*No* %
Engineering	9	6	85
Science	13	3	84
Social Science	6	3	91
Humanities	2	2	96

Another question provided a long list of departments and asked the students to check those in which they would take courses, "if you had another quarter at Stanford during which you might elect courses freely." In the table below are listed the departments in which 15 percent or more students said they would take courses with an extra quarter. An * indicates a greater than 20 percent difference between the percentage who would take courses and the percentage who majored in that department.

Department	*Would take courses* %
Student's major	53
*English	39
*Art	36
*History	35
*Humanities	31
Psychology	28
Political Science	26
*Computer Science	24
Economics	22
*Philosophy	22
Anthropology	21
Music	19
Sociology	18
Biological Sciences	16
Speech & Drama	15

Students' Opinions on the Relationship Between Research and Teaching

Five statements were made, relating to research and teaching, and the students were asked to indicate the extent of their agreement with each statement, based on their own experience at Stanford. The results are summarized; there were no differences between students majoring in different areas.

	Agree strongly %	*Agree somewhat* %	*No opinion* %	*Disagree somewhat* %	*Disagree strongly* %
Research seems to prevent professors from giving sufficient attention to teaching	12	45	10	24	8
"Publish or perish" seems to make teaching a secondary concern for the faculty	24	40	11	20	5
A professor's research forms a sufficiently important part of his course content to make research activity a worthwhile contribution to teaching	22	45	10	17	6
Some kind of pressure for good teaching (similar to the pressure to do research and publish) should be placed on faculty members	65	24	4	4	3
Deans and department heads seem to be well informed about the quality of teaching of individual faculty members	6	11	32	29	22

Selection and Evaluation of a Major

Students were asked to indicate the role played by various possible factors in their selection of major departments. Shown below, by area of major, are the percentages reporting each consideration as "very important."

	Engineering %	*Science* %	*Social Science* %	*Humanities* %
Interest in the subject matter	71	72	77	85
Ability in the kind of work required	64	45	37	50
Reputation of the department:				
1) for good teaching	28	12	16	39
2) for a high degree of independent work	10	4	8	6
3) for relatively easy grading	0	0	1	1
Quantity of required courses	7	8	22	13
Contemporary relevance of subject matter	50	39	68	40
Relevance to long-range career goals	81	76	58	39

Students similarly evaluated their departments on various characteristics: the percentages below evaluated their departments as "highly satisfactory."

	Engineering %	*Science* %	*Social Science* %	*Humanities* %
Required courses:				
1) as preparation for other courses	32	27	21	19
2) as contributing to your understanding of the field	38	34	28	26
Flexibility of requirements	16	13	45	40
Range of course offerings	44	20	28	40
"Scholarly focus" of the faculty	38	31	29	34
Quality of advising	31	9	15	11
Opportunity for independent work	23	32	32	26
Faculty interest in undergraduates	32	19	24	28
Quality of teaching	39	22	25	44

For an overall evaluation, students were asked whether or not, if they were again at the point of declaring a major, they would make the same selection. The following table shows the percentage saying "Yes," they would select the same major.

Engineering	*Science*	*Social Science*	*Humanities*
88%	64%	68%	71%

One Final Question

At the very end of the questionnaire, students were asked, "Would you encourage a younger sibling to attend Stanford?"

Eighty-three percent said "Yes." The differences between areas of major were very slight.

Engineering	*Science*	*Social Science*	*Humanities*
86%	84%	79%	87%

Sally Main
Assistant Staff Director, Research
Study of Education at Stanford

Appendix 2

Summary of Information on Undergraduate Education from Humanities and Sciences Departments

During the summer and autumn of 1967, extensive interviews were conducted by members of the SES staff with committees or executive heads of most Humanities and Sciences departments; others responded to a list of questions in writing. Following are summaries of replies to questions dealing with undergraduate education:

Are the general studies requirements for undergraduate majors satisfactory?

Over half of the departments feel that the general studies requirements are satisfactory. English and Political Science reported student dissatisfaction, and Classics, Communications, Music, and Humanities Special Programs reported that their faculty members disapprove of the requirements. In particular, they object to the lock-step nature of the freshman year program and are concerned with providing more problem-centered courses and some means to synthesize knowledge previously acquired in specialized courses. The Department of French and Italian feels that the General Studies Committee does not consult with the departments sufficiently. Sociology wishes the complete abolition of all requirements.

What courses are offered primarily for the fulfillment of general studies requirements for those who major in other areas? How frequently?

Nearly all of the departments provide general studies "service" courses, most of which are offered once a year. Freshman English, Western Civilization, foreign language, and introductory mathematics courses, which are required of all students, are given each quarter. Other introductory courses, such as Art 1, Psychology 1, and Sociology 1, are also offered nearly every quarter.

What is the enrollment in those courses?

Enrollment in general studies introductory courses is generally very large, often numbering in the hundreds. Some more advanced languages, speech and drama, and humanities courses are smaller. Freshman English, Western Civilization, and foreign languages are usually taught in sections with fewer than 25 students in each.

What are the departments' advising arrangements?

In nearly every department, all faculty members are involved in advising. In the Chemistry, Music, Physics, Psychology, and Sociology departments, some faculty members advise undergraduates, and others graduate students only. In Chemistry and Sociology, the advisors constitute committees on graduate and undergraduate studies, which meet in groups with their graduate and undergraduate advisees to deal with questions of curriculum and so forth.

How many students per advisor?

The number of students assigned to each advisor varies considerably both among the departments and within individual departments. The average number seems to be between 20 and 25, varying from three students per advisor in Classics to 40 in Psychology. In the Mathematics department the number varies from 3 to 66, depending on the advisor's experience.

How often do they meet?
All advisors meet formally with students assigned to them once a year to sign class lists. Otherwise, advisors tend to leave the initiative for other meetings with the students. The Classics, French and Italian, and Sociology departments encourage their advisors to meet with students at least once a quarter, even if they have to seek them out. Some faculty members go on search and advise missions more often than this. Humanities Special Programs reports that its advisors, or, more appropriately, tutors, call or see their students at least ten times during the academic year. The Department of French and Italian has a weekly coffee hour or tea at which questions of a general nature are answered, thus relieving, to some degree, the advising load. Asian Languages depends on informal meetings with students in connection with classes.

Are advisors relieved of other regular duties or otherwise compensated for advising work?
There is no compensation in any of the departments for advising work, except that advisors are often relieved from other committee duties. The German department, however, gives lighter teaching loads to those with heavy responsibilities as advisors.

How are advisors selected?
In most cases, the department heads select advisors, except for the Political Science department, in which the department secretary has this duty. In Humanities Special Programs, a rather special case, the department head appoints a tutor to each student, subject to the approval of the Humanities Honors Program committee.

What are the criteria for the selection of advisors?
In most departments, all faculty members are expected to do some advising, and advising duties are often alternated with committee assignments. There is, however, some dependence on willingness and on experience: new assistant professors are given no or few advisees. The Department of Art and Architecture adjusts the advising load to its estimation of the advisor's ability. The Mathematics and Spanish and Portuguese departments attempt to assess the advisor's personality and his interest in students. A number of departments assign as undergraduate advisors only those faculty members who teach undergraduate courses.

Does the department provide general studies advisors?
Nearly every department that has an undergraduate program (except History and Speech and Drama) provides general studies advisors. The number ranges from one or two in most cases to six in the English department. The departments indicated that they provide general studies advisors only in response to the fervent appeals of the Registrar.

Has the department taken a position on curve grading in undergraduate courses at various levels?
No department reported that it has a firm position on curve grading. A good many expressed dissatisfaction with the curve and do not follow it. While not approving of the curve as such, the History department acknowledged that it employs curve grading in its larger elementary courses.

On pass-fail grading?
No department indicated that it has a general position on pass-fail grading, although Humanities Special Programs would like to see the system widely extended. In practice, the pass-fail alternative is left to the instructor's discretion and preference, but there are departmental rulings prohibiting the use of the pass-fail system in language courses and in choral and instrumental work.

What is the practice?
For the most part, individual professors determine their own grading practices. Many tend to use a "skewed" curve in large courses, "absolute" standards in small courses, thus disregarding the curve altogether, and encourage pass-fail in accordance with the University allowance.

Does the department offer courses in which a substantial component of the student's work is in the form of independent written work?
With a few exceptions, every department offers and encourages a substantial amount of independent work. Mathematics, however, offers little, Statistics offers none, and Physics limits such work to advanced students: "Beginning students in Physics don't know enough to do independent work."

Should such work be encouraged? How?
With the exceptions noted, all departments feel that they are presently encouraging independent work. Statistics believes that it might offer some independent work through applied courses. The Psychology department has some reservations about expanding the amount of independent work offered unless it can provide fully adequate supervision. Asian Languages feels that it is doing as much as it now can. The Art and Architecture department is concerned about the proliferation of papers and is moving toward a single paper requirement at the end of three quarters of independent work.

How sharp is the division between graduate and undergraduate courses?
About half of the departments describe the division as not sharp. The remainder describe it as fairly or very sharp.

How easily can students cross this line?
A number of departments leave this to the discretion of the instructor. In Sociology, honors students may take graduate courses. In History, graduates take undergraduate courses if their undergraduate preparation in history is insufficient.

Should it be larger?
Most departments feel that their honors programs should include more students. The English and Sociology departments could manage a larger program only with an increase in their staffs. Political Science and Psychology do not think that their honors programs should be expanded.

Is such a program costly in relation to what the students derive from it?
Except for those programs established too recently to judge, most departments consider their honors programs costly but worth the price. The Psychology department said that its honors work is the equivalent of graduate training; Humanities Special Programs termed the Humanities honors program "the best bargain here."

If there is no honors program, should there be one?
The departments of Art and Architecture, Communications, and Speech and Drama said that they should initiate honors programs, but would need larger staffs to do so. The French and Italian department feels that language students already have quite enough work without the additional burden of honors work; Physics feels that the undergraduate years are too early for any extensive independent work; Statistics feels that its department is too small; and the Asian Languages department sees no need for an honors program.

Is there a problem in staffing the number of courses now offered?

About half of the departments reported that there is such a problem. The Mathematics department cited, in particular, its upper division courses, in which the size of the classes is too large. Psychology thinks that it is required to offer too many introductory courses.

Should the number of courses be increased? Reduced?

Slightly over half of the departments think that the number of courses should be increased. The Asian Languages department thinks that any increase should come in Asian studies generally and not only in the Asian Languages. The French and Italian department wishes to increase the size of its staff in order to replace teaching assistants with regular faculty members in certain courses. Music feels that it could and should increase the size of its staff if it did not lack sufficient office space.

What are the principal deficiencies of undergraduate education as seen from the vantage point of the department?

A variety of opinions were expressed, from inadequate equipment and buildings for language training to the History department's concern that, because it has become nearly the only department to offer a humanistic study of social experience, it attracts too many majors to handle well. The Psychology department expressed concern that 80 percent of its staff is oriented to work with graduate students. The Sociology department feels that a great deal of time and energy must be devoted to undergraduate education, but that the University, despite its many words on the subject, is unwilling to devote sufficient resources or attention to the matter.

Is the present academic calendar satisfactory?

Most departments oppose the quarter system because of the frequent repetition of the registration-testing cycle, and because there is too little time for students to become deeply involved in the subject matter of their courses or to write adequately researched and considered papers. To avoid the plagues of the quarter system as much as possible, some departments offer two-quarter courses. The Computer Science, Physics, and Statistics departments are satisfied with the present system. The chairman of Humanities Special Programs thinks that the quarter system has not yet been used to best advantage.

Appendix 3

Memorandum on Freshman English

To: Members of the English Department

From: Robert M. Polhemus

Subject: Composition Committee's proposal for first-year English

I

Last spring the Composition Committee reached a general agreement that Stanford's required Freshman English course, as it is now constituted, should be radically restructured. After much discussion the committee agreed that in place of English 1, 2, and 3 a variety of first-year courses should be offered by regular members of the English Department and that the faculty would be assisted by T.A.'s. These courses would be independent courses with different subjects, e.g., "Literature and Technology," "Politics and Literary Imagination." They would run for two quarters and would carry five units of credit per quarter. In all of them, however, writing would still be, for the student the major part of the course. Students would continue to write as much, and hopefully more, than they do now and on non-literary as well as literary topics. Presumably an hour a week of class-time, or an ample period of tutorial time per week would be devoted to instruction in writing. The committee opposed various suggestions for inter-disciplinary courses for freshmen which would involve other departments because it felt strongly that the responsibility for instruction in writing must remain with the faculty and staff of the English Department.

The organization of the new courses, as with any course, would be up to the professor in charge. Some might be set up as lecture courses with attached seminar sections, others might be run exclusively in sections, others as combinations of lectures and tutorials. Within feasible limits, students ought to be free to take the course they choose.

Some of the main reasons for the proposed change were, and are, these:

1. Student desire for more variety in course offerings and more choice in courses in their freshman year.
2. The desire on the part of both faculty and students for first-year thematic English courses, courses with recognizable subject matter.
3. The increasing difficulties, for numerous complex reasons, of staffing English 1, 2, and 3 with enthusiastic, willing members of the regular faculty and competent graduate students with some teaching experience (for instance, the 2nd-year T.A. is becoming more and more a rarity each year).
4. The inevitable unevenness of the present program.
5. The near impossibility of administering a "single" college course for 1,200 students and 40 or 50 teachers.
6. A conviction that breaking the course up into several courses will mean more mutually beneficial contact and cooperation between regular faculty members and teaching assistants than is now possible.
7. The desirability of more contact, however tenuous, between freshmen and regular faculty.

II

As a preliminary step to gauge the feasibility of the proposal, I have contacted a few members of the department who now teach Freshman English and will be here next year. Here is a partial list of prospective teachers and the subjects they are willing to offer in 1968–69:

Appel – Introduction to Modern American Fiction
Evans – The Evolution of the Hero
Felstiner – The Comic Imagination
Fields – Expository Writing
Halliburton – Literature and Technology
Kostelanetz – Language, Literature, and Myth
Middlebrook – Literature, Childhood, and Society
Miller (Writer-Teacher) – Modern Popular Culture
Polhemus – Politics and Literary Imagination
Rebholz – Introduction to Poetry
Watt – Modern Literary Consciousness

III

On Thursday, October 26, 1967, the Composition Committee (Professors Ackerman, Fields, Fifer, Friedlander, Middlebrook, Moser, Polhemus, and Watt)* met to consider the new plan formally and made the following recommendations:

1. that the English Department should adopt the proposal to offer the new series of two-quarter, five-units-per-quarter autonomous courses in place of English 1, 2, and 3 beginning next year, and should present it to the University for action (unanimous vote),
2. that these courses *not* be officially required to all students by the University (majority vote),
3. that enrollment in each of these courses be limited to about 100 students (majority vote),
4. that these new courses should be open to all students, but that first-year students have priority in enrolling (unanimous vote),
5. that one course in the series should be a requirement for an English Major, but that courses from the series should *not* be prerequisites for other courses in the English Department.

November 2, 1967

---

*Professor Ackerman could not be present.

Appendix 4

Memorandum on the Future of the Western Civilization Program & Staff

To: The Study of Education at Stanford
From: Paul S. Seaver
Assistant Professor of History and
Director of the Western Civilization Program

The object of the following proposal is to suggest a means by which historical studies might be retained as a significant part of the course work offered to freshmen and to suggest a way in which the present staff of instructors might be employed in such a program. The proposal is predicated upon several assumptions.

(1) It is assumed that the present General Studies requirements will be abandoned and that some form of minimal area requirement or distribution requirement will be substituted for the present structure.

(2) At the same time I am assuming that it will not be proposed that the freshmen simply be thrown to the tender mercies of the departments. That is, I am assuming that some sort of program will be evolved which will be directed specifically at those freshmen and sophomore students who are not yet committed to a disciplinary major. The freshman seminars presently offered would, I assume, be a part of such a program.

It follows from the first assumption that the History of Western Civilization course would no longer be required of all Stanford undergraduates. The present course, however overburdened and superficial, does provide an introduction to the history of Western culture and institutions, which serves several important purposes.

(1) It creates a basis for a critical awareness of the past and provides a context for an understanding of both our present political and socio-economic institutions and our literary, religious, and philosophical traditions—an end presumably worthwhile in itself.

(2) At the same time such a course serves a remedial function for students, many of whom have had little European history in the course of their secondary education,

(3) and a service function, in that it provides an historical context or "background" for advanced work in history, literature, philosophy, etc.

(4) It also provides an introduction to historical concepts of continuity and change, to the complex relationships between ideas and institutions, as well as an introduction to various modes of historical analysis, to the use of historical documentation, to interpretative problems, and so on.

(5) Finally, the present course, for all its drawbacks, serves a valuable function pedagogically: (a) the discussion section is central; hence, the course emphasizes active involvement in the process of learning; (b) the encouragement of articulateness is not an end in itself, but rather the student is encouraged to formulate his thoughts about complex subjects under the direction of an instructor, who, because he is an historian, will be concerned with the substantive character of the analysis. Hence, the student at the outset of his college career is introduced to the acquisition of knowledge and to critical modes of thought in a process in which he plays an active part, and which at the same time involves a degree of intellectual rigor.

There are, admittedly, reasons which may be both adequate and sufficient to compel the abandonment of the course as a general requirement. First of all, however valuable and justifiable upperclassmen may believe the course to have been, many freshmen are unhappy with the requirement and, lacking motivation, find the course a source of frustration. The student, desiring to take control of his own education, is immediately presented on entering college with a required course—a classic case of the conflict between the desirability of choice and the need to provide the bases for a reasoned understanding of the possibilities and alternatives which give reality to choice. Secondly, many of us as faculty are no longer convinced that there is a standard or specifiable body of knowledge or information necessary for a liberal education.

Nevertheless, many of the present generation of students appear to desire a deeper knowledge both of human values and of the way in which these values may be incorporated into the institutions that structure our societies. One way by which one can come to a greater sense of human potentialities is by a study of what men have thought and done in the past. Hence, I would suppose that there is a case for the retention of historical studies as part of the freshman curriculum, even if the lock-step of a required survey appears unpalatable to students and unjustifiable to the faculty.

Obviously, the body of knowledge purpose and the remedial and service functions, provided by the present course (see 1, 2, and 3 above), cannot be salvaged for all students once the requirement is dropped. The fourth function, that of introducing historical concepts, modes of analysis, etc., is common to all history courses and does not, therefore, require the setting of a Western Civ survey. The fifth function, the pedagogical, is provided by any seminar in which student participation is expected.

However, unless some specific provision is made, a combination of the fourth and fifth functions—seminars on historical topics or problems—will not be available to freshmen, except in whatever Western Civ course survives. The History Department does offer lecture courses which are presumably open to all undergraduates; the Department also offers undergraduate seminars, but these are presently limited in most instances to advanced history majors.

I would propose, then, that rather than disband a substantial part of the staff that presently teaches the Western Civ course, which would otherwise follow the demise of the course requirement, the instructors be employed to teach freshman seminars. Further, I would suggest that the instructors should be encouraged to design courses in areas in which they have specialized training and research interests. This would insure, to the degree that such is possible, that the subject matter would be handled with competence and expertise, and that the instructor would bring some intellectual excitement and enthusiasm to the course.

Besides providing freshmen with the opportunity to take seminars in historical subjects (history is hardly represented in the present freshman seminar offering), such a use of the present staff of instructors would also enrich our undergraduate offering without raising such issues as the balance of departmental offerings, the viability of offering graduate work in the area, etc. Among the present staff, expertise and research interests range from the 14th century Italian city-state to the Italian colonial experience in north Africa in the 20th century, from the phenomena of witch beliefs in 16th century Switzerland to politics of the German Socialists in the 1920's.

This proposal involves neither any additional budget nor any additional staff, but simply a different use of men and resources already committed to freshmen teaching. Staffing would present no recruitment problems. During the past three years there have been at least four or five candidates for each opening on the staff of the present program, and the opportunity to teach both a section of a Western Civ course in which students voluntarily enrolled and an additional seminar in an area of particular interest to the instructor would be extremely attractive to most young historians.

While the proposal has been advanced in terms of a new assignment for the present staff of an existing program, it would be plausible and desirable, if additional resources were available, to expand such a program so as to include other disciplines not now adequately represented in the freshman seminar program. Such an expanded program might be supervised by an interdepartmental committee, which would allocate resources and help to insure that both variety and balance are maintained in the course offerings.

September 10, 1968

Appendix 5

The Teaching of Composition in College
by Leon Seltzer
Director of the Stanford University Press

The Problem

If we did not already know that American college graduates cannot write well, we could deduce as much from the way writing is taught in the typical American college. From the enormous effort expended on freshman composition classes, we might guess that the student enters college unable to write, and from the casual way he is taught writing after the freshman year, we might safely conclude that he will leave college with no understanding of the importance–not to mention the pleasure–of writing well.

Our concern in this essay is with the problem of teaching college students to write more effectively. It is worth observing, however, that no other single approach to the problem would be nearly so effective in the long run as simply establishing a minimum acceptable level of writing as a standard for admission to college. The first year Stanford announced that, say, 500 high school graduates with otherwise excellent records had been rejected for failing to meet the university's writing standard for entering freshmen, the stirrings in the high schools would be something to see. As English and continental European experience shows, there is no intrinsic reason why students should not learn to write adequate expository prose in high school or even earlier.

As things stand, however, the high school student and his advisers have no reason to believe that anyone really cares how well he writes. Gestures are made by the colleges–an essay is asked for with the application form, and one is required by the College Board examination in English–but it is unclear how these essays are appraised or what weight is given to the appraisal. No college systematically rejects otherwise qualified applicants for admission on the sole ground that they write badly. Perhaps no college should, but the consequences of this decision–and possible alternatives to it–are at least worth examining.

In any system without an explicit writing standard for admission to college, that standard is defined by default: in effect, it is the level of writing skill achieved by any high school graduate who passes the other entrance requirements. At the same time, however, there is necessarily a higher writing standard in the university, one depending on the axiom that inept writing is a sign of inept thinking–that ideas, if they are to have any effect, must be clearly formulated and efficiently communicated. A student who cannot express himself in writing is a problem student, whether he is writing about life, literature, political science, or physics. In the system now current in most American colleges, the responsibility for raising students' writing ability to this higher standard is placed squarely, and almost solely, on freshman English. That freshman English cannot really bear this burden is widely conceded, but no alternative is proposed.

In short, the posture of most colleges would appear to be as follows:

1. Incoming freshmen should be able to write acceptable English upon entrance.
2. They nevertheless do not.
3. This defect is not serious enough to keep them out of college.
4. But it is serious enough for the college to devote a substantial part of the freshman year to repairing it.
5. But that is all the college can do. If the defect is not repaired in freshman English, the defective student must make his own way as best he can.

This sequence helps to explain why freshman composition courses are a constant source of anguish to English departments and college administrations. It is not just that we seldom ask how best to get from here to there in teaching composition. It is that no real attempt is made to define "here" and "there": to say what we expect of entering freshmen in the way of writing, and what we expect of sophomores–or graduating seniors. The task handed the English Department is at once urgent and hopelessly ill-defined. A carefully constructed writing test, administered to all candidates for admission, would establish a firm base to start from. Where we might go from there is the subject of this essay.

The basic requirements of a good composition course are (1) content in which the student is reasonably interested, and (2) qualified writing teachers with (3) sufficient time to do the job properly. It seems clear that no composition course based mainly on the classroom can meet these requirements. To see why, let us examine the requirements one by one.

A writing course at the college level necessarily deals with a subject of real importance, at a serious level of understanding, to which the student brings a close and engaged attention. The subject matter is usually supplied by the teacher or director of the composition course itself; hence the conventional freshman English course, with its simultaneous emphasis on the beauties of literature and the mechanics of writing. But this dual emphasis is self-defeating, for the more adequately the course deals with literature, the less adequately it can deal with instruction in writing as such and the more irrelevant such instruction becomes. The effect is familiar: the instructor, a specialist in literature and anxious to prove that his subject is worth the attention of any serious student, emphasizes content and de-emphasizes writing skills; this is fine with the student, who is both anxious to please the instructor and no doubt happier reading the writing of great writers than struggling with his own. If the course is successful by the instructor's lights, everybody may be happy; but nobody learns to write. Even the rare instructor who emphasizes writing skill in such a course must necessarily devote much of his time and energy to purely literary matters.

Which brings us to our second point: the instructor's ability as a teacher of composition. Most composition courses are taught by teaching assistants in the English Department. Even if all teaching assistants are good writers (a doubtful assumption), are they necessarily good enough as teachers and critics of writing to make significant improvements in the writing of students with very little less supervised training in writing than they themselves have had? And even if they are good enough, will they be suitably motivated? If a teacher is indifferent to writing as such, a student may learn a lot from him but will not learn much about writing. With just such teachers in just such circumstances, as often as not in the freshman composition course itself, begins the successive reinforcement of habits just a shade sloppy, of syntax just a bit shaky, of imprecision unnoticed and unchallenged. If this is not to happen, we require a teacher with exceptional writing ability, a capacity for detecting and remedying writing defects in others' work, and an interest in writing as such irrespective of content.

This brings us to our third and last point, namely that even if the caliber of the instructor is guaranteed, the present system does not provide enough time for the kind of intensive instruction that is necessary. An instructor with twenty-five or thirty students can scarcely read one paper a week per student, let alone correct its shortcomings, discuss them with the student, and read and correct a revised version; for a teaching assistant, who is essentially a full-time graduate student and only incidentally an instructor, the problem of time is even more intractable. The classroom-based system, for all its virtues, is no system for teaching skills.

As all good composition teachers know, teaching writing is like teaching the piano: what is needed is sustained individual instruction that responds to the student's particular needs and shortcomings, and perhaps also to his strengths. The problem is to construct a system that will allow individual teaching of this sort to function, on a large scale, in an environment whose administrative, scheduling, staffing, and pedagogical logistics are alien to it. We shall examine next the possibilities of such a system.

An Alternative System

The first requirement is flexibility–in the ordering of time and place, in the use of the instructional staff, in its response to particular students. *The key to this is simply to separate the task of teaching writing from the task of providing the course content.*

A Tutorial Program. The system proposed puts the task of teaching writing in the hands of a

Director of Composition who will administer a tutorial program of instruction nearly independent of the academic curriculum.

Such a separation of functions depends upon a satisfactory relationship between instruction in writing and the substantive content of a course. We shall in due course address ourselves to that question, but for the time being let us assume that the necessary requirements have been met and proceed to investigate how such a system might operate.

Content would be provided by the regular curriculum. The student himself would choose, with whatever degree of freedom is deemed workable, the academic course that would serve. The papers he would in the normal course of things write for that course would be the stuff upon which he and his writing instructor would work. How they would go about it we look into now.

The Unit and the Set. Freed entirely from the formal constraints of the classroom, we can establish the basic unit of instruction as follows:

1. The student writes a paper.
2. The paper is read and commented upon by the writing instructor.
3. The student studies the corrected paper.
4. The student confers with the writing instructor.
5. The student rewrites the paper.
6. The rewritten paper is read and commented upon by the writing instructor.

The amount of instruction time this sequence takes would vary with the length of the paper and the quality of the writing, but if a composition of fixed length is arbitrarily established, the time variable will with experience settle down to an average figure that is both effective and economically acceptable. We will establish this unit of length as four double-spaced typewritten pages, roughly 1,200 words. The application of the six steps in the model of this unit of composition instruction we shall call an *instruction unit*. In practice, this unit will require perhaps two and a half hours of an instructor's time. Four such instruction units would constitute a minimum series, which we shall call a *set*.

Having chosen his course and been assigned a writing teacher, the student would be suitably introduced to the composition program by means of an orientation session. He would then embark upon his first set of instruction units by submitting his papers seriatim to his composition instructor, and the rest of the steps in the instruction unit would follow. On completing each set of instruction units, the student would either take another set of instruction units or be certified by the Director of Composition as having satisfied the writing proficiency requirement. In other words, except for the number of instruction units he might be required to take, the student is largely freed not only from formal scheduling but also from the internal division of the academic year.

The Teaching Staff. One of the effects of having a four-unit set of instructional time instead of a scheduled classroom is the widening of the sources of teachers, for it now becomes possible for any qualified instructor to take part in the teaching of writing, with as little as one student for a four-unit set. To the question "Who is qualified?" the answer ought to be, "Only someone of demonstrated ability"; that is, no one arbitrarily–no graduate student simply because he has been hired as a teaching assistant, no instructor simply because he is in a particular discipline, no faculty member simply because of his rank. Traditionally, the English Department has been assigned both the entire responsibility for and the entire burden of teaching freshman composition. We might here examine whether as a practical matter and as a matter of educational policy this is the best solution.

The English Department's role has everywhere derived from two major premises: first, that teachers of English are, on the average, the best teachers of composition; and second, that every teacher of English is a good teacher of composition. But the acceptance of the first of these statements does not mean that some teachers in other disciplines might not be better teachers of composition than some teachers of English; and the acceptance of the second does not mean that there are not good teachers of composition in other disciplines. In other words, there would appear to be no reason with respect to competency to rule out the augmenting of the composition staff with instructors from many departments. And there is perhaps some strength to the argument that since every academic department has an important stake in the student's mastery of the written word, each department ought, if possible, to bear both some of the responsibility and some of the instructional burden. For under any system, once the student leaves the guidance of the English Department as a freshman, unless he is an English major the monitoring of his future writing performance will come from faculty in other disciplines anyway. This would appear to be reason enough for the other departments to get in on the game early.

But the problem of who in particular would or should teach writing has opposing facets. On the one hand, who is qualified must be determined by the Director of Composition, not by the separate departments. On the other hand, no one will be eager to take on the dreary job of correcting freshman themes. The second of these is true of any system. How the Composition Director deals with the first, the delicate matter of certifying teachers, we shall examine later on, when we look into how the whole system might be administered. Right now it is time to address ourselves to a question we have earlier postponed: the relationship between the effectiveness of a writing instructor's performance and his knowledge of the discipline in which a particular paper is written.

Relation of Writing Instruction to Course Content. While the ideal would be always to have an expert teacher of composition who is also an expert in the subject matter, we must make do, on the whole, with something less than this. The question, then, is how far either criterion may be relaxed and what tolerances will in practice work and still permit a high level of performance.

The question is usually posed from polaric views. One is that only a teacher in a particular discipline is qualified to deal with a student's paper in that discipline. The other is that a teacher of composition is unqualified to deal with a student's paper in a discipline in which he is not an expert. Neither of these assumptions withstands close scrutiny. Indeed, it is from the uncritical acceptance of both of them that most of the failures and defects of the traditional freshman writing courses derive. If, for example, the problem is to improve a student's writing on a scale of 10 from point 2 to point 8, there is little doubt that a skilled writing instructor who is reasonably literate in the expert's field would be preferred over an expert in the discipline who writes badly himself. In the practice of our tutorial system, however, there would be no such hard choices: the problem would simply succumb to an aggregate of factors that lessen the intensities generated by the content requirement.

First, much of the writing instruction would in the normal course of things come from within the department. Second, the course instructor would in some cases *be* the composition teacher. Third, the concentration of the work in the freshman year would limit the choice of courses. Fourth, in the freshman year, when much of the instruction would be carried on, the level of the courses ought for the most part to put the content within reasonable reach of any qualified writing instructor. Fifth, there are times when a student might be better served by someone outside the strict boundaries of a discipline: for a paper in seventeenth-century British history a teacher of English literature might be better than a teacher of Chinese history. And sixth, a particular writing teacher could do some reading in a course, or, if necessary, audit it.

With the relaxation of the disciplinary requirements to a sensible degree, a remarkable new freedom is open to the proposed system: *there is no longer any reason why competent instructors should not be drawn from every constituency of the university and of the surrounding community*. Suitably tested, screened, and supervised, instructors in writing could come not only from the regular teaching staff but also from the administrative staff, from graduate and undergraduate students, from high school teachers–in short, from anyone with the necessary skill, education, and cast of mind. The instruction-unit model allows for as little or as much time as any instructor can spare, and the emancipation from the classroom permits a flexibility of scheduling to accommodate any qualified teacher.

In order to keep the line of argument clear, one step in the general process of instruction has thus far been temporarily skipped. We reinsert it now: each of the papers would be written for a content-course instructor for the purposes of that course, and each paper would be read and graded on its substance by that teacher. Our instruction model will therefore in practice contain an additional step:

1. The student writes a paper.
2. The paper is read and commented upon by the course instructor.
3. The paper is read and commented upon by the writing instructor.
4. The student studies the corrected paper.
5. The student confers with the writing instructor.
6. The student rewrites the paper.
7. The rewritten paper is read and commented on by the writing instructor.

The introduction of this step in no way alters the relationship between student and composition instructor, though it does pose some problems of paper shuffling that ought to succumb to routine administrative ingenuity.

Administering the System

The Quantitative Elements. Though we have judged the instructional unit to take about two and a half hours of an instructor's time, there are particular features of this time span that affect the way in which it can be made to fit into an academic program. This period is divided for the instructor into at least three, and possibly four, segments, corresponding to the instructor's sessions with the student and his work: a first segment for his intensive editing of the student's paper, a second for a conference with the student, a third for a reading of the rewritten theme, and, possibly, a fourth for a second conference on the rewritten theme. These segments would necessarily be spread over several weeks, and though this precise order of things might in practice be changed, it is clear that no more than four such instruction units–one set, or ten hours of an instructor's time–per student could or should be fitted into a quarter of ten weeks.

Let us look, now, at the relationship between class size and certain quantitative elements in the system, taking as an example a freshman class in which 1,300 students are required to take the composition instruction program.

While some students would reach standard in one set of four instruction units, and some might need as many as three sets, or even more, we will guess that for the kind of intensive instruction provided by this system the average student will be certified in two sets, or two quarters. A freshman class of 1,300 students would accordingly require 2,600 sets of instruction units.

For planning purposes, we shall take as the teaching load of a more or less "full-time instructor" the typical teaching assistant who works half time. Such a teaching assistant, if he did nothing but teach writing, would handle 22 sets of instruction units (220 hours) a quarter, or 22 students. If experience were to show that 250 students could be expected to be certified in one set, 800 in two, and 250 in three, the instruction requirements would be for the first quarter the equivalent of 59 instructors, for the second the equivalent of 47.8 instructors, and for the third the equivalent of 11.4 instructors.

The ways in which students and sets of instruction units can be matched with instructors are of course nearly infinite, since the range of teaching loads runs from 22 students per instructor for a full-time teaching assistant to one student per instructor for, say, a busy undergraduate. The question of how much instruction time would be furnished by full-time teaching assistants and how much by several hundred part-time graduate students, other faculty and staff, undergraduates, and others, would depend upon certain matters of university and departmental policy (How many T/A's do we want teaching composition as against, say, teaching a freshman English course in the modern novel or a section of Western Civ?) and certain empirical factors (How many acceptable instructors can be found among the various constituencies?); but once the program is established, the variations from year to year should not be beyond the capacity of the system to accommodate. It would be easily responsive to sabbaticals, leaves of absence, and changed instructional priorities.

The problem of matching students with composition instructors appropriate to the course content would be a little more difficult, but since the course options for freshmen are somewhat limited (or, for these purposes, could even be made limited), and since only certain of these would be suitable for the necessary written work, the configuration of choices would become reasonably predictable in a year or two, and for the first quarter might look something like this:

Course A, 40%, or 520 sets
Course B, 30% or 390 sets
Course C, 10%, or 130 sets
Course D, 6%, or 78 sets
Courses E through K, 2% each, or 26 sets each

In this example the number of full-time T/A's, or the instruction equivalent, would vary from one per course to 24 per course. With experience the Director of Composition will have worked out ways to insure that he have the right kind of instructors in the quantity necessary to meet his requirements.

Some Effects on the English Department. But the more important question for the university would be how it should respond to the options newly open to it in the way teaching assistants are allocated among departments. The principal questions to be answered are three:

1. How many sets of instruction units is it desirable–or even possible–to get from the regular staff?
2. How many teaching assistants should there be for the teaching of composition alone?
3. How should the teaching load be distributed among the various departments?

The answers to these questions necessarily involve criteria in undergraduate education quite beyond the scope of this essay, but certain direct effects of this proposed system of composition instruction are clear.

For one thing, by our dividing the dual charge to the English Department–to teach composition and to provide freshman English courses of strength and substance–into two discrete responsibilities, the Department is freed to fashion freshman English simply as a content course and is given more flexible means to structure and administer a program in composition. Two further effects are of course apparent: first, without some alteration in the combined curricular weight of the freshman English-composition requirement, the English Department would have fewer teaching assistants than it now has; and second, however many T/A's it does in the end have, it will have more complex decisions to make in the assignment of them between the composition program and content courses.

Effects on Other Departments. Both of these factors–the altered number of departmental T/A's and the way in which they might be used within the department–would apply as well to other departments. Among the elements involved would be the reallocation of certain budgets for the teaching of composition. While we cannot in this paper deal with the question of the degree to which different departments might take part in the composition program, we can examine the way in which they would participate.

By whatever means the distribution of the writing-instruction load were arrived at, out of the decision would come an assignment of a particular number of instruction units to each department. The way this charge would be satisfied would be up to the department itself, and the options open to it are wide. To begin with, each department would budget for its assigned instructional load and would satisfy its instruction-unit assignment either by supplying units of instruction from its staff or by "purchasing" units of instruction from the central pool or even from other departments. The way in which a department responds to this would be a reflection both of the department's general interest in the scheme and of its staff situation in a particular year. For example, a department with an assignment of 100 sets of instruction units might decide in one year to hire two teaching assistants for 44 sets, and to handle the other 56 by dividing them among, say, 12 regular staff members; and in another year, in which three men are on sabbatical and two on leave, to hire four teaching assistants to provide 88 sets, to handle eight sets in the department, and to "buy" four sets elsewhere.

One of the benefits of this scheme–if it is a benefit–would be to give the departments a greater participation in and control over the writing progress of their own majors. In any case, it would add significant dimensions to the way in which a department would be assigned T/A's, the way in which it used its T/A's, and even the way in which it used a certain small part of the time of its regular faculty.

Post-Certifying Instruction. The involvement of other departments at once provides the opportunity and the instrument for the extension of this whole system of instruction beyond the freshman year.

If a student does not learn to write well enough in his freshman year, there is no difficulty in continuing the basic writing program well beyond it. But even when students have been certified as writing up to a certain standard, there remains the auxiliary task of matching the progress of the student's skill in writing with the increasing demands upon its quality made by the higher levels of academic inquiry. The instruction-unit system can be easily extended to satisfy the continuing concerns of the university. This could take the form either of simple remedial work, or of a continuous monitoring of a student's work throughout his undergraduate years, or of an advanced course in writing designed to bring him to a new level of performance altogether.

Except for basic remedial work or monitoring, other applications of the system could be permitted at the option of either student or department. For example, after a student has satisfied the minimum composition requirements he might be given a "bank account" of a certain number of instruction units (say, four or eight) that he could use at his option in any course or at any level in his succeeding years in college, save only that he use them in sets, so as to prevent the abuse of the system merely to improve a particular term paper.

Similarly, each department might be given a "bank account" of instruction units on which it could draw for its own purposes, either for remedial work for one of its majors or as a deliberate part of a program to raise the writing of an entire advanced seminar to a new level of excellence and precision. Nor need the system of instruction be limited to undergraduate work. It might well find an important application in the graduate and professional schools.

The Composition Section of the English Department. The success of the whole system depends, as with any enterprise that deals with the teaching of skills on a large scale, upon a first-rate Director of Composition and a Central Staff of trained writing instructors who care about their work, with all that this implies: a confidence in their knowledge and skill, a conviction of the importance of what they are doing, a personal commitment to the task, a continuing concern with results. The ways in which the Director and his staff might go about their jobs are too varied to be gone into here in any detail, but it is clear that of the three major divisions of their task–administration, choosing and supervising teachers, testing and certifying students–the most important and one of the most difficult would be the finding of able teachers, for the qualities of the best of these are rare.

A teacher of composition must be someone who can write reasonably well himself, who has a good command of syntax, whose ear is sensitive to idiom, who values precise thinking and graceful expression, and who responds with certain qualities of mind and temperament (among which, I fear, is a touch of cruelty) to the multi-level challenge of correcting sloppy prose. The largest part of his time will be spent painstakingly editing, with a sustained and critical attention, the papers of his students. If it is done properly, this is difficult, brutal work. The only way to find out if a particular instructor can do it is to see if he can–in other words, a test of some kind. In an academic context this requirement seems out of place: no one suggests testing a potential instructor in mathematics or in the English novel or in American history. But the analogy is inaccurate. When it comes to instruction in a skill that is combined with artistry rather than to instruction in matters of substance, teachers will indeed always have been tested, though not necessarily by a formal testing instrument: certainly surgeons, piano teachers, and sculptors are in their way proved.

In this matter the Composition Director will have to find his way. For new instructor and for non-faculty teachers he will devise a suitable written test and require that it be taken. Though members of the regular academic staff, particularly outside the English Department, are not likely to want to take on work of this kind in preference to other teaching, for those who do the Director would use common-sense procedures without relaxing his standards. Those members of the faculty who wished to take the writing instruction test could do so and be certified or not on the results. Those who preferred not to take the test but nevertheless wished to take on some instruction units would be permitted to do so without quibble. But everyone's work would be subject to the same review procedures, the same standards of rigor, and the same administrative mechanism for weeding out poor teachers.

The constant monitoring and checking of the quality of the instruction would be among the most important tasks of the Central Staff, and the general orientation session with which the Director would begin each academic year might in practice have to be followed up by several smaller and more private sessions of a more practical sort.

Virtues and Defects of the System

Most of the virtues of the system are explicit in this account: the intensity and seriousness of writing instruction are increased; inferior teachers are weeded out; good teachers who don't happen to be English T/A's are brought in; students are given a greater freedom on choice, thus giving a greater possibility of commitment; freshman English is free to be a content course; the departments have more control over the writing of their majors and future majors; the level and amount of instruction can be adjusted to the requirements of each student; the reservoir for writing teachers is widened beyond the academic staff; instruction is easily extended beyond the freshman year; writing is given a new importance in the upper college; a teaching assistant's time can be used more flexibly, both by the department and by the T/A himself.

The defects of the system should not be minimized. It will be difficult to find an able Director, an able staff, and able teachers. It will be difficult to establish the various criteria for performance of student and teacher alike. It will be difficult to administer a program as fluid as this, involving many departments and hundreds of students throughout their undergraduate and even graduate years.

Conclusion

But however unpersuasive this proposal in matters of detail, some such program is necessary if we are to break out of the hand-wringing posture that American universities have so long maintained about the fact that their students cannot write. Whatever system is tried must have some of the virtues of the system here proposed. One of the most important of these is the possibility of the continuous involvement of composition instruction throughout the four years of undergraduate work, for this would be a constant reminder to student and faculty alike of the college's view (if it *is* the college's view) that excellence in writing is central to a man's education, central to the act and spirit of the university.

For while we have not in this discussion of details thematically invoked the general context–the university–in which this entire exercise takes place, that context must at last be paramount. That is, in the university as a whole, and within the academic disciplines individually, there is an insistence on an integrity of mind, a standard of inquiry and performance, that we expect will have something to do with how we will in the end measure our lives. In these matters, our academic disciplines at their best give no quarter. It is in this context that we must ask whether we can afford the larger consequences of our casual attitude toward excellence in writing; for our failure to insist upon rigor in written work could be misleading about the kind of performance and the quality of thought demanded by academic work itself. That is, if writing is a test of mind, of capacity, of seriousness–as I think it is–there should be no doubt where the university stands.

Appendix 6

Report to the Faculty of Humanities and Sciences by its ad hoc Committee on the General Studies Program

Your committee has studied the program of general education for undergraduate students and offers this report of its conclusions. Many of the topics considered are so ramified that a properly detailed treatment of each requires more time than the committee was able to devote to the program as a whole. Consequently, we have limited our recommendations to questions of general policy and to suggestions for future exploration. We have included a number of recommendations for your consideration.

Respectfully submitted,

Charles Drekmeier
Gavin Langmuir
Lucio Ruotolo
Mason Yearian
Halsey Royden, *Chairman*

(Considered at the H & S Faculty meeting Monday, December 4, 1967.)

I General Studies Requirements

The general studies requirements for graduation evolved from the old lower division requirements which were based on the premise that there was a standard body of information necessary for a liberal education. Your committee believes that this premise is no longer valid, that it is neither possible nor desirable to prescribe courses covering all material worth learning, and that the ingestion of factual information should be subordinate to learning methods of inquiry and exposure to sources of knowledge. We believe the present general studies requirements are unduly prescriptive, but are reluctant to see the elimination of all requirements for fear that programs will become narrow and specialized.[1] We therefore recommend keeping general education requirements for graduation, but with their emphasis shifted more towards general area requirements and less to specific courses.

English: If anything is essential for a liberal education, it is the ability to write clear and coherent prose, and we recommend that each freshman should take a course in which written work is demanded and judged on form as well as content. At present a uniform course in Freshman English is given with literary content, but the subject matter of a course in which writing is practiced need not be uniform. At Cornell, for example, a number of freshman writing courses on various topics are given by diverse departments. It seemed to us, however, unwise and impractical to distribute responsibility for such courses beyond the English Department, and we are pleased that the English Department is considering the possibility of giving a number of different courses to meet the objective of Freshman English. We also hope that all professors whose courses require written work should give attention to the lucidity and quality of the writing.

History: We believe it important for all students to take a course in history. Such a course need not attempt to squeeze the universe into a ball and roll it toward some overwhelming question, but should give some insight into the past and the historical bases for our present civilization. It does not seem necessary that all students take a uniform course, and there should be possibility for variety. One could allow free choice of history courses. Less radical would be to maintain History 1 and 2, covering history through the French Revolution, say, followed by a choice from among a number of courses in modern history. These could be either variants of the present History 3 or else a spectrum of courses designed to be of interest to undergraduates in general.

---

[1] No requirements for graduation other than a certain number of total credits was the essence of the "elective plan" originated by Eliot at Harvard and widely adopted by various universities, including Stanford in its first years. The universal abandonment of this scheme by American universities early in the century is some evidence that a total lack of requirements is unsatisfactory in practice.

Area Requirements: While the present tripartite division of courses (and majors) into areas is somewhat arbitrary,[2] the requirement that a student take a number of courses in each of the two areas other than that of his major is a simple practical way of insuring that programs do not become too narrow and specialized. We believe, however, that the area requirements should be quantitative only, with a student given free choice in the area without additional constraints to specific groups of courses or sub-areas.[3] Although the Committee has tried to avoid consideration of numbers of units and other aspects of academic bookkeeping, the present requirements of eight units in the Humanities, ten units in the Social Sciences, and seventeen units in the Natural Sciences seems disproportionate, and it may be more reasonable simply to require three courses in each of the areas.

Humanities: The present requirements allow a relatively free choice in this area but artificially constrain the choice to courses in different sub-areas and limit it to "starred" courses. We believe it proper for a student to take related courses if he wants depth rather than diversity. We understand that the purpose in the general studies requirements of the restriction to courses "starred" by the General Studies Committee was to allow that Committee to rule certain courses, such as Public Speaking, ineligible for the satisfaction of this requirement, but the actual practice in approving courses has led to the anomaly that Public Speaking is admissible for this requirement but upper division courses in Shakespeare are not.[4]

Social Sciences: At present the student is required to take two out of a list of seven introductory courses. We favor a free choice from the courses offered by the social science departments.

Natural Sciences: At present each student must take one of six sequences in the natural sciences, subject to the restriction that, if he has not taken biology in high school, he must "choose" the biology sequence, while if he has taken biology but not a physical science, he must choose a sequence in physical sciences. No scientist contacted by this committee saw sense or reason in this restriction.

Some faculty members disagree about the wisdom of requiring courses (or laboratory courses as at present) in science for the non-scientist. Although a good background in high school science may well be sufficient to meet the needs of the educated man in our society, your committee, fearful of a division of mankind into Eloi and Morlocks, recommends keeping an area requirement in the natural sciences, but dropping the requirement that all students take a laboratory course. Some science courses require laboratories in order to be taught effectively and should retain them, but it seems to us neither practicable nor desirable to require a laboratory of all students. We think it important, however, that laboratory courses be offered for the non-scientist and that he be encouraged to take them. A requirement of three courses with laboratory or four without might be appropriate.

A mere change in the requirements allowing a student free choice among the science courses does not in fact greatly increase the options of the non-scientist. A few students have special interests which make the introductory courses in Physics and Chemistry attractive, but in practice the choice of most will still be limited to Phys. Sci. 1, 2, 3, Biology 4 and 5, and Geology 1 and 2. We believe that, although each of these is an excellent course in itself, a need exists for additional courses suitable for non-specialists. It has been suggested that a new sequence of three courses be instituted treating physical science, biology, and the applications of science to society.

---

[2] For example, History could be considered either in Humanities or in Social Sciences, and Psychology could be a Natural Science. Almost no scientist and few mathematicians would consider mathematics a science.

[3] A small number of "technical" courses are not suited to the requirements of a broad education and should not be allowed to satisfy the area requirements.

[4] See footnote number 3.

Language and Mathematics: At present a student is required to achieve a proficiency in either mathematics or a foreign language equivalent to that of the fifth quarter of the calculus or elementary language sequence. The old lower division requirements insisted that a foreign language be taken by every student except those in Engineering who were allowed to replace the foreign language with mathematics. At the time the General Studies requirements were developed, many social scientists felt it desirable that their students also have the option of substituting mathematics for a foreign language. There is some parallelism between the elementary mathematics and language sequences: both are valuable as skill subjects useful in wide areas, and each is necessary for the reading and understanding of some of the literature and sources of various disciplines. The committee believes that all students should be encouraged to take as much mathematics and foreign language as possible and was concerned about the most appropriate form for requirements in this area. One possibility would be to require both language and mathematics; another, to eliminate any University requirement and have individual departments make their own requirements in these areas. While the latter alternative seems attractive, it has a serious disadvantage in that many students do not decide upon their majors until the junior year. Thus, if a department such as History or Economics were to require a foreign language or mathematics, the student who had not already taken most of his language or mathematics requirements would find it awkward to choose such a department for a major. Consequently, we believe the present option of mathematics or language is a reasonable or pragmatic course between these two extremes, having the effect of requiring a foreign language of the humanistically inclined students and mathematics of the scientifically inclined. We thus recommend this option be kept, possibly with some liberalization. At present the only mathematics courses under this option that are specifically designed for the non-scientist are those in the Math 30 sequence, and it may be desired to organize other sequences from the mathematical sciences (including Statistics and Computer Science).

Senior Colloquia: All candidates for the A.B. degree are currently required to take a Senior Colloquium. These colloquia were intended to allow students to participate in small group discussions with a professor from outside their major and to encourage faculty members to give colloquia on topics of general interest. We sympathize with these aims but do not consider the present program entirely successful, partly because of dwindling faculty participation and partly because the insubstantiality of many colloquia make this requirement hardly more serious than the old activity credit requirement. We recommend that the amount of work expected in (and credit given for) these colloquia be increased to that of a regular course and that a student be allowed the option of taking an upper division course in an area outside his major in place of a Senior Colloquium. This should cause the Senior Colloquia to compete for students rather than to have a captive audience. We also recommend that B.S. candidates from this School also be subject to this requirement.

II Special Programs

It has been proposed that "a limited number of students, selected on the basis of exceptional promise, be given the option of designing their entire undergraduate program free of all formal requirements." It has also been suggested that "a small random sample of volunteers be taken into a program whose object is to test a variety of educational innovations in a controlled setting." This committee endorses both suggestions, but it is probable that these programs, because of their honors and experimental character, will be suitable for only a small minority of students. We also believe that a general mechanism is needed to provide, in individual cases, for appropriate substitution for or exemption from specific General Studies requirements.

We believe that it is unduly restrictive to insist that each student have a departmental major. A departmental major seems appropriate for most science students, but we concur in the belief of many non-science students that they would profit from a more general program of studies. At present there are three interdepartmental honors programs (in Humanities, in Social Thought, and in Quantitative Methods in the Behavioral Sciences), but nothing to meet the needs of non-honors students. We recommend the establishment of two non-honor majors, one in the Humanities and one in the Social Sciences. The requirements for such a major might simply be a number (fifty?) of units of upper division courses given by Humanities (or Social Science) departments or might have somewhat more structure.

III Course Offerings

Your Committee has given far more attention to the question of requirements than to course offerings. This is perhaps inevitable, since requirements may be altered by fiat, while the modification of existing courses and the initiation of new ones demands hard work and careful planning, much of which must be done by those faculty members who will bear the responsibility for teaching and administering such courses. Yet the improvements in education effected by tinkering with requirements are small compared with those that can come from new and careful course planning. We believe that the primary responsibility for giving courses suitable for general education lies with the faculty of this School and its various departments and that we should give some of the same care and effort to courses for general students that we give to those for our majors.

IV Advising

Requirements are a partial substitute for an adequate advising procedure, and to the extent that requirements are relaxed we must improve the information at a student's disposal so that he can make sound choices. The present system of advising needs drastic improvement, but we have no specific and effective proposals to suggest. There should be changes to make both advisors and advisees think advising more important. The General Studies Committee or a special faculty committee should prepare written material for the student recommending various courses and giving sample programs to meet various needs. It seems to us desirable that there be some systematic provision for the transfer, preferably in written and comprehensive form, of information about courses and programs from the seniors to the beginning students.

Proposed Recommendations and Resolutions for the Faculty of Humanities and Sciences

I. It is recommended that for graduation:

1. English (involving composition) and History shall be required of each student.
2. In addition a student shall be required to take a number of courses (three?) in each of the three following areas: Humanities (excluding elementary language), Social Science, Natural Science (excluding the mathematical sciences). There shall be no restriction to particular courses or sub-areas. In particular, the present restrictions on biological vs. physical science should be abandoned.
    a. Laboratory work in the sciences need not be formal requirement for graduation, but the requirements should be so structured that non-science students are encouraged to take laboratory work.
3. Each student shall take a certain amount of work in Mathematics or a foreign language. Where feasible a student should be allowed to fulfill all or part of this requirement by demonstrating achievement rather than by taking a specified number of units.
4. The content of and credit for a Senior Colloquium shall be increased to that of a regular upper division course. Each candidate for a Bachelor's degree from this School shall take (in addition to those under 2) either a Senior Colloquium or an upper division course in one of the two areas different from that of his major.
5. A mechanism should be established to allow appropriate variation in individual cases. A limited

number of students, selected on the basis of exceptional promise, should be given the opportunity to design their undergraduate program free from all formal requirements.

II. Additional recommendations:

6. It is recommended that this School establish two non-departmental majors, one in Humanities and one in Social Science.

7. It is recommended that this Faculty establish a standing committee on Undergraduate Study, advisory to the Dean of the School, charged with overseeing all aspects of undergraduate education for which the School is responsible, particularly those which do not lie in the province of a single department.

Appendix 7

Summaries of minimum bachelor's degree unit requirements in various majors, 1968–69

	Course in major department			*Courses prescribed in other departments*	*Additional est. gen. studies requirements (excl. math-lang.)*	*Total normal requirements (see note*)*
	Prescribed	*Elective*	*Total*			
EARTH SCIENCES						
Geology	48	–	48	46	41	135
Geophysics	3	–	3	97	41	141
Mineral Eng.	14–26	0–9	21–26	113–120	33	170–175
Petroleum Eng.	34	–	34	101	41	176
ENGINEERING						
Chemical	22	–	22	80	69	171
Civil	40	22	62	49	69	180
Electrical	45	–	45	51	69	165
Eng. Science	–	21	21	73	69	163
General	–	25	25	74	69	168
Industrial	35	11	46	73	69	188
Mechanical	32	–	32	59	69	160
HUMANITIES & SCIENCES						
Anthropology	12	23	35	10	48	93 *
Art						
History	9	39	48	–	54	102 *
Studio	52	13	65	–	54	119 *
Pre-Architectural	66	–	66	23	48	137
Asian Languages	57	–	57	–	54	111
Biological Sci.	26–28	12–14	40	48	41	129
Chemistry	44–49	–	44–49	45–51	39	128–139
Classics						
Latin & Greek	8	48	56	–	54	110
Latin *or* Greek	12–14	14–16	28	4	54	86
Communications						
Journalism	24–25	0–6	25–30	31	40	96–101 *
Broadcast/Film	23	–	23	16	40	79 *
Economics	30	15	45	–	53	98 *
English						
Literature	30	15	45	–	53	98 *
Creative Writing	46	–	46	–	53	99 *

	Course in major department			*Courses prescribed in other departments*	*Additional est. gen studies requirements (excl. math-lang.)*	*Total normal requirements (see note*)*
	Prescribed	*Elective*	*Total*			
French & Italian						
French	46	24	70	–	53	123
Italian	37	18	55	–	53	108
German	30–33	12	42–45	–	53	95–98
History	15	21	36	–	58	94 *
Humanities (incl. Relig. Studies)	32	40	72	–	50	122 *
Mathematics	60–63	9	69–72	18	41	128–131
Music	44	6	50	–	53	103 *
Philosophy	21–36	12–27	48	–	48	96 *
Physical Science	50	–	50	45	41	136
Physics	59	–	59	35	41	135
Political Science						
Standard	13–15	30–32	45	–	53	98 *
Intnl. Rel.	30	10	40	35	48	123 *
Psychology	14	31	45	–	53	98 *
Slavic Lang.	22–28	7–13	35	–	53	88
Sociology	25	20	45	–	53	98 *
Spanish & Port.	19–22	13–16	35	–	53	88
Speech & Drama	52	–	52	12	48	112 *
Statistics	12	24	36	27	50	113

***Note: Unit requirement figures marked with an asterisk do not include the General Studies math-or-language requirement. This may be up to 24 units of language or 18 units of mathematics, varying according to initial placement and overseas campus attendance. Other requirement figures include the math-or-language requirement as a regular part of major requirements.**

Appendix 8

Excerpts from "The Collegiate Rite of Passage" by Joseph Tussman, Professor of Philosophy, Experimental College Program, Berkeley

Published in *Experiment & Innovation: New Directions in Education at the University of California, July 1968*

The Experimental Program

The Experimental Program, now in its third year, is a first program. Technically, it can be regarded as a triple "course" extending over two years. Except for a single outside course each quarter, it constitutes the student's total program for his lower division years. It is regarded as satisfying the reading and composition, social science and humanities, and American history and institutions requirements. The outside course permits the student to satisfy the language requirement and either the science requirement or some prerequisities for the upper division major. The Program is limited to 150 entering freshmen selected randomly from among applicants and is staffed by six full-time faculty members. Almost all of the students avail themselves of the pass/not pass option.

These technical details reveal very little about the nature and spirit of the Program, but they are mentioned to indicate that it has not been difficult to accommodate the Program to the system of general requirements.

While the Program has been conceived from the beginning as an integral whole, it is possible to distinguish two aspects: its curriculum or "subject," and its pedagogic structure. Each is an important part of the experiment, but it has always been considered possible that the general structure might commend itself to some who would not approve of the particular curriculum and who might wish to experiment with something like the same form and a quite different curriculum. I therefore shall discuss separately the curricular and structural aspects of the Program.

Curriculum

The curriculum–"What we study"–always has been the most difficult aspect of the Program to explain. Not only difficult, but really, when explained, so controversial and subject to misunderstanding that there has been a tendency on our part to settle for accurate but superficial descriptions rather than to face the serious task of explanation. Thus, we have pointed to our list of readings–a list so powerful as to seem self-justifying or to support a number of justifications.

Or, falling back on the original source of inspiration–Alexander Meiklejohn's experimental college–we have described the program as a variation of the Athens–America curriculum, focussing on Greece, seventeenth-century England, and America. True enough–but the Program is really not "historical" in its conception or orientation.

It is more revealing to say that the curriculum is "problem oriented," using materials which are, to some extent, historically clustered. The problems, however, are fundamental and perennial–that is, as contemporary as they are historical. Against the background of war and conflict we see men struggling to achieve peace and freedom, attempting to supplant power by legitimate authority, to embody moral values in a legal order, to reconcile submission to authority and the claims of conscience and individual judgment, to curb passion with reason, to tame destructive pride, to make wisdom operative in human affairs.

That we begin with the Greeks and end with America only serves to give force to the conception of human culture persisting as it develops different forms, enduring in various modes of expression. The underlying assumption is, therefore, that there is indeed a common set of fundamental problems and that liberal education is the process by which we become more perceptively and sensitively involved in them. That these problems are supremely urgent and relevant today is obvious–especially to anyone who is at all aware of the freshman state of mind crudely sketched earlier in this paper. I argued then that the function of the college–as distinct from the university–is to deal with that state of mind as part of the process of initiation into the life and work of society. The suggestion that the lower division program address itself to this task finds expression in the curriculum of the Experimental Program.

In Homer and Hesiod, Herodotus and Thucydides, Aeschylus and Sophocles, and in Plato we have a constellation of fresh and powerful minds grappling with central issues. To continue the argument in seventeenth-century England–with (yes!) the King James *Bible*, Shakespeare, Hobbes, and Milton is to tap the other great stream in our living tradition and to set the stage for the American venture. The study of America presents greater curricular challenges and difficulties and we are planning revisions in the second year of the Program. But we certainly will retain, as a central thread, the concern with the *Constitution*, politics, and law.

So much, then, for the "subject." I turn now to some of the curricular principles involved.

(1) *Everyone is to study the same materials.* This is a practical necessity if there is to be a useful set of common lectures and seminars. But it is more than merely a practical necessity. It is a necessary condition for the development of a learning *community* with all of its sustaining qualities. A student who chooses to enter the program finds himself subject to a completely required curriculum for two years. It is, moreover, a curriculum determined entirely by the judgment of the faculty. We consider curriculum construction to be one of our central responsibilities, and we are not apologetic about the assertion of our authority at this point. It is almost the main service we perform for our students.

This means that we are not impressed with current tendencies to allow or encourage each student to pursue his own "interests" or to encourage students collectively to participate in curriculum determination. Students will have the rest of their lives to plan their own learning programs; in college, such planning is still the responsibility of the faculty. As for motivation–students are interested in fundamental problems and a program which deals with such problems intelligently will elicit and sustain interest and effort. Moreover, the chief problem for the student is not interest but *habit*. Finally, a healthy student will be interested in what he should be interested in–whether he knows it or not. Our problem is to shape programs which embody what the student should be interested in. If we do that there will be no real problems of motivation.

(2) *The common reading list should be short.* Serious reading is almost a lost art. Rapid reading under pressure is killing it. It is essential to restore the activities of reflection, of questioning, of appreciation to the reading process. This takes time. Students must be given the chance to read at a more leisurely pace. This means staying with a relatively short list of readings, allowing sufficient time for each, and reading one thing at a time. For example, we spend three to four weeks on Plato's *Republic*. Since it is the only thing we read during that period, the time available is at least the equivalent of a major quarter course. Lectures, seminars, and papers during this period also are focussed on the *Republic*. This adds up to an educationally unique experience, and the program is designed to provide an integrated sequence of such experiences–intense, but unhurried and undistracted.

The pace of the reading is always a difficult matter of judgment, but our situation is kept flexible so that the tentatively scheduled time for a particular work can be shortened or extended as we think desirable.

We are, of course, confronted with some difficult decisions and temptations. There are too many good things not on the list. We have Plato, but why not Aristotle? Why not more Euripedes? *Paradise Lost*, but why not Dante? John Stuart Mill, but why not Marx? The temptation is always to add good things, but we are convinced that that is the shortest path to disaster. No doubt it is possible to draw up a sequence of readings quite different from ours–perhaps equally good, perhaps better–although I doubt it. But it is not possible to draw up a list which would include every reasonable suggestion and still be an intelligible or manageable educational program. Choice is necessary, and it must be guided by considerations of thematic development, by concern for significance and variety, by a broad range of considerations which, for a teacher, are often intuitive; and experience will suggest modifications.

Our curriculum, then, takes as its "subject" a cluster of perennial moral and "political" problems and takes as its materials a relatively short and varied list of great works drawn from the Western tradition, to some extent historically clustered, and culminating in the study of these problems in the American context. Concretely, the first year's reading is as follows: Herodotus (to be read before the year begins), Homer's *Iliad* and *Odyssey*, Hesiod's *Works and Days*, Xenophon's *Anabasis*. Thucydides' *History of the Peloponnesian Wars*, supplemented by some Plutarch and Aristophanes, Aeschylus's *Oresteia*, Sophocles's Theban Plays, Euripedes's *Bacchae*, Plato's *Apology*, *Crito*, *Gorgias*, and *Republic*, *The Bible*, Shakespeare's *King Lear*, Machiavelli's *Prince*, Hobbes's *Leviathan*, Milton's *Paradise Lost*, J. S. Mill's *On Liberty*, and Matthew Arnold's *Culture and Anarchy*.

This particular curriculum is not an inherent or necessary part of the idea of a first program, and we can imagine a range of variations from those which keep the same central concerns but substitute other books for ours to those which substitute major historical "clusters" including "non-Western" materials, to those which would depart radically from the central moral and political themes.

But a common, required, faculty-determined curriculum is an essential part of this conception of a first program.

Structure

The Program makes a radical break with the course-classroom-examination pattern of educational life. But the problem is not simply to free the student from the traditional routine and turn him loose. It is, rather, to establish a ritual which will support and encourage the development of a set of intellectual habits consistent with a reasonable, effective, and continuous use of the mind. The association between "taking courses" and "getting an education" needs to be broken. But something must be put in the place of the old, destructive routine. Just as we regard the development of the curriculum as a faculty responsibility, so also we regard the establishment and maintenance of a structure of educational occasions, activities and demands as a faculty responsibility. The teaching art at this point is the art of maintaining an environment and ritual conducive to the development of intellectual powers and habit. The chief resource available, apart from the curriculum itself, is the teachers' judgment and energy, and the problem is to determine the structure of its most fruitful application.

The program makes use, in its own way, of the traditional techniques and forms–lectures, discussion, writing, conference.

Lectures: While we do not regard "lecturing" as the chief mode of teaching, it does have a significant place in the program. The dangers are familiar and obvious. The lecture can shift the work from the student to the teacher and encourage passivity; it can explain what the student should be trying to figure out himself; it encourages the confusion of "telling" with "teaching;" it presents the teacher with temptations. Nevertheless, meetings with a large number of students during which the faculty is being heard can, if properly conceived, be very useful. We have two such regularly scheduled meetings (each about 1½ hours long) a week, and all students and all faculty members are expected to attend.

The lecture program is coordinated with the readings, and its main function is to stimulate and deepen the reading process. We operate with a few simple rules. We do not lecture about what has not been read; and we do not generally present background or supplementary information. We try, instead, to raise questions, to offer suggestive interpretations, and to sharpen and deepen the issues or problems latent in the reading.

We have tried a variety of forms: occasionally a single speaker lecturing for almost the standard hour; sometimes two speakers for shorter periods; sometimes even three. We have had a few panel discussions. There is almost always a question or discussion period with the faculty, on this occasion, given priority. Students have a chance to hear the views of the entire faculty, and while we do not strive artificially for controversy, it takes place quite naturally.

The common lecture program is quite indispensable. It is the only occasion on which we are all assembled. It insures that common themes are developed and reinforces the unity of the program. It keeps the faculty working closely together and gives the student a sense of involvement with more than members of his own seminar group. As the function of the lectures has become clearer the pressure on the faculty has virtually disappeared. We are not–except accidentally–academic experts on the material studied, and any attempt to give conventional academic lectures would be misguided. But we are not using the materials in the normal academic way in any case, and the faculty quite easily can develop–with the aid of a good deal of free internal criticism–the capacity to respond fruitfully to the materials. There is scope for a wide variety of approaches and styles. In short, the lecture program has become an interesting challenge to the faculty and a stimulating and unifying feature of the program.

In the past, we have enjoyed generous help from visiting lecturers and will continue to invite visitors to lecture on appropriate occasions.

Seminars: The seminar is the occasion for discussion, in a small group, of the curricular materials and ideas. We began with a single two-hour meeting each week with 15 students. This was found to be unsatisfactory because 15 seemed to be too large a group, and because one meeting a week did not seem to be enough. We then tried groups of about eight, each group meeting twice a week–once with the faculty member present and once without. This was much better, although it quickly became apparent that the second meeting–unattended by the faculty member–needed more attention. We are now going to try groups of 10 or 11, with increasing concern for the second meeting. The complexity of the seminar situation is so great that, for example, the faculty spent hours considering the advisability of the shift from eight to ten.

The question of appropriate size is, of course, related to the conception of the function of the seminar–more particularly, the role of the faculty member. If he is, in effect, to lecture there is not much point to smallness. If he is to dominate and direct the discussion to themes or ideas he believes to be most significant, he may well be able to work with a larger group. If students are to be encouraged to discuss *with each other*, a small group is desirable and the discussion may move in directions the faculty member may not think most fruitful; and, in any case, his participation takes on a different character. A dominant role for the faculty member means that the two seminar meetings are radically different in character. Should the objective be to foster the art of discussion so that the faculty member's presence becomes increasingly unimportant and the two meetings come to resemble each other in character? These are fascinating pedagogic questions, and the staff is not fully in agreement about them. There is general agreement, however, that the seminars are to focus on the current reading.

The regularly scheduled seminar without a faculty member present seems to us to be a promising institution adaptable to situations other than ours. It puts burdens and responsibilities squarely upon the students and they are often surprised by the discovery of the extent to which they are, disappointingly, faculty-dependent.

Writing: The program makes it possible to think of student writing as a central educational discipline sustained over a two-year period. While there is some difference of opinion on this point, we do not, on the whole, think of turning students into "writers." We are more concerned with the practice of writing as an activity which reveals the mind at work and aids in the development of clarity, coherence, and understanding. Whatever else it may be, writing is, for us, a powerful pedagogic instrument.

We expect, or hope, that the student will spend at least an hour a day writing–every day for two years. We assign a formal paper about once every two weeks. And we ask the student to write every day in his journal. This is not a personal diary. The student is to develop some idea growing out of the reading, discussion, or lecture, and the journal is to be available for faculty scrutiny.

We are moving with increasing conviction towards formal papers on clearly assigned topics and in a prescribed form. And we are discovering that we have much to learn about how to formulate paper assignments so as to increase the possibility that the writing will be educationally productive.

In the past, we have returned the papers with written comments and "corrections"—keeping a copy for the student's file—and on occasion have discussed the paper with the student in individual conference. But we are not too pleased with this method. Paper reading is a lot of work, and written comments are not always helpful or effective. We are now going to try regular tutorial conferences. We plan to see each student once every two weeks for a half hour during which we will read and discuss the paper with the student. We hope this will provide for an effective level of attention, analysis, and criticism. The provision for this regular individual conference is related to our decision to increase the size of the seminar to ten students.

The writing program heightens our awareness of the problems of habit. Our students, for example, have coped effectively with high school demands. The standard habit is deadline oriented—reading delayed until late, a writing strategy adopted, a last minute sustained writing session, a marginal revision while typing. It is difficult and necessary to break this pattern and to develop another. The crucial experience is probably that of the student's own ruthless criticism of his first draft and the rethinking involved in writing the second draft. But this requires *early* reading and thinking and an early writing of the first draft. Everyone knows this should be done, but it is easier said than done. Similarly, everyone agrees that the daily journal writing is a good idea. But apparently, it is very difficult to find an hour each day, to sit down and try to write. It takes character and discipline.

Individual conferences: We have always assumed that our faculty-student ratio precluded regular tutorial sessions with each student. Our policy has been to consult individually with students whenever "needed." This has, indeed, worked fairly well, although it is possible and inevitable that a student who needs a conference may go unnoticed. Our decision to handle the formal papers on a conference basis will alter this situation. We will see every student once every two weeks. If this proves to be an adequate way to criticize the writing, we will have gained tutorial advantages as well.

Informal associations: From the beginning we have regarded a physical "center" as essential to the Program. We have relatively few formal "classes" or meetings, and we count on informal association and contact to strengthen the sense of the common enterprise and community. A reconverted fraternity house on the edge of the campus has been assigned to our exclusive use and has been adequate for our needs. It has a large commons room, a reading room, faculty offices, and seminar rooms. It is near the auditorium which we use for the lecture program and, except for the lectures, all our academic activities—seminars, conferences—take place in the house. Keys are given to students on request and the house is available for use evenings and week ends.

It is hard for us to think of the Program without the house. But it must be admitted that the house has been and continues to be a source of disappointment and anxiety as well as of enlightenment.

The Program makes the pass/not pass option available to its students and it is significant that all of the students chose pass/not pass in the first quarter of the second class. We regard this system as a significant educational advantage, although it poses some marginal "disciplinary" problems. We do not have examinations, and our policy is that a sustained good-faith effort will receive a pass. (Recommendations for scholarships, etc. are based upon our knowledge of the student's work and each student's file has a copy of every paper and of faculty comments.) If, in our judgment, a student would be better off in the regular program we recommend that he transfer. In a half a dozen cases we have dropped students from the Program with a not pass. In these cases the students simply were not doing the work—failed to turn in papers and were absent from seminars.

It should be clear that the Program is not "permissive." We have a required curriculum and a prescribed ritual or discipline. But a description of the various aspects of the Program is inevitably fragmentary and very inadequately expresses its unity, its spirit, its real excitement. Students and faculty share a unique educational way of life. It is not, of course, a "complete" education. But it is an example of what a first program can and should be.

Appendix 9

Description of Monteith College as a Model for the Proposed Education College

Dr. Max Coral, the Associate Dean of Monteith College, feels strongly that in a few years the best, small, liberal arts colleges will exist within the rich environment of a large university. He feels that this is the way to have both the personalized, immediate relationship between student and teacher available in a good, small, liberal arts college and the broad range of coverage in depth offered by the departments of a university. Monteith represents the fusion of these two goals.

Monteith College is a non-residential, liberal arts college within a much larger university, Wayne State. The college enrolls about 800 students, this being the number who select this option at present. An upper limit of 1,000 students has been set to maintain the values gained from a closely knit community of faculty and students; however their enrollments, while expanding regularly, have not yet pressed this limit. One of the basic principles of the college is that anyone gaining admission to Wayne State is eligible, so the college population is similar to the larger university population. Wayne State, being a commuter university in downtown Detroit, whose students have a lower-than-normal socio-economic background, promotes a vocational desire among many of the students that does not direct them toward the Monteith program.

The core academic program, which is required of all students who wish to obtain the Monteith degree, includes three carefully structured sequences of five to six quarters each providing a substantial (but not comprehensive) acquaintance with natural science, the science of society, and humanistic studies. These require 16 of the student's 36 quarter-courses (one quarter-course equals four units) in his first three years, concentrated primarily in the first two years. The junior year is 75 percent elective. Then in the senior year Monteith requires a two-quarter senior colloquium and a senior essay, which is awarded three quarter-courses credit. This leaves the student enough elective time to complete the major requirements of nearly all academic departments. The Monteith bulletin includes a number of sample programs combining college and departmental work, including pre-medicine, but it seems impossible to complete the entire Monteith program and an engineering degree. For a student completing both the Monteith curriculum and the requirements of a department, it is possible to receive a Bachelor of Philosophy degree from Monteith and a B.A. in his major, recognizing the distinct and complementary nature of the two programs.

The Monteith core courses, which meet for two lectures and two small discussion groups each week, aim to provide both breadth and depth. To do this, they sacrifice the traditional pre-professional approach of departmental introductory courses and concentrate instead on numerous crucial advances, ideas, or works in some field of human endeavor. Let me illustrate by discussing the natural science sequence. This consists of six quarters: 1) the rise of scientific thought, a historical approach; 2) the evolutionary hypothesis, a historical approach to the life sciences up to some ideas of modern genetics; 3) the relationship of mathematics and logic to the empirical sciences; 4) the macrophysical world view, a study of deterministic theory from Newtonian mechanics through special relativity; 5) the microphysical world view, a study of some basic effects of quantum physics and their inherent indeterminacy; and 6) contemporary problems in science, a quarter left flexible so that the interests of student and instructor may best be accommodated. In this quarter the student is encouraged to study in depth one of the following areas: population explosion, urbanization, mental hygiene, resources and pollution, cybernation, education, or medical technology. Thus, this series culminates with the technological, problem-oriented course. In all of these courses material is presented in such a way that a physics major should find the natural science sequence complementary to his major courses, rather than overlapping. The senior colloquia have no specified topics and are placed in the interdivisional section of the Monteith bulletin. They are described as discussion and criticism of books and other materials, emphasizing independent work as much as possible.

Let me mention more briefly a number of other relevant facts about the Monteith program: 1) It offers a series of tutorials, seminars, and elective courses in each of the divisions so that a student may follow a program of general education without specializing in one of the conventional disciplines. This gives substance to the Monteith B. Phil. degree, 2) Freshman English composition is not required of Monteith students. Instead the papers that they write in *all* basic courses are evaluated on the basis of both form and content. The discussion sections are small enough to make this feasible. 3) Each student must take the fifth quarter in one of the basic sequences without the aid of the discussion section. Instead he is furnished with a course outline and reading lists, is free to attend the lectures (which are taped for review purposes), and is able to ask occasional assistance from an instructor in the course. This exposure to independent critical reading and thinking prepares the student for his later senior colloquium and essay. 4) There is a small group of courses spanning the three basic divisions (indicated by the three core sequences), including the senior colloquia and a course entitled "Non-Western Civilization." 5) Monteith is committed to a continuing reassessment of its educational program.

Because Monteith College has been applying for nearly ten years so many of the ideas we of the Steering Committee of SES recommend, its program deserves careful consideration as a model for our proposed general education college. In addition to developing an excellent series of basic core courses–complete descriptions of which are available in the SES files–Monteith has pioneered in the development of a program that extends this interdisciplinary approach to the upperclass years through the advanced tutorials, senior colloquia, and senior essay. In the context of our proposals, a Monteith-like core sequence could be an excellent preparation for a self-designed major; moreover, if the basic program in our general education college is successful, provisions should be made to promote independent work based on this foundation, as is done at Monteith in the senior year. Such a program at Stanford is bound to be the source of many educational innovations, which will diffuse through the entire institution.

Michael M. Menke
Steering Committee, Study of Education at Stanford

Appendix 10

Samples of New Science-Technology Courses

Following are descriptions of three suggested courses in science and technology designed for non-specialists in the subject fields. They are reproduced here as illustrations of the types of courses that might be offered to students who wish to fulfill the science distribution requirements through study of this kind rather than through enrollment in traditional science courses.

Supersonic Transportation of Passengers

by N. J. Hoff, Professor of Aeronautics and Astronautics

Course Outline

The design of subsonic aircraft; the so-called sonic barrier; supersonic fighters, the feasibility of supersonic transportation; the shape of the supersonic transport; aerodynamic heating; the economics of supersonic flight; legal, political, and medical problems connected with supersonic transportation.

Course Description

The major aim of this course is to provide a general view of the technical and historical factors that have led to the evolution of supersonic aircraft. As is suggested in the course outline, a number of important legal, political, and economic questions will arise quite naturally in this course. These questions will be used to draw in faculty from these disciplines for a discussion of special issues, and in this way the interdisciplinary nature of the problem will be emphasized. Students will be asked to write a term paper on some aspect of the course that is of particular interest to them.

The Development of Nuclear Physics

by W. E. Meyerhof, Professor of Physics

Course Outline

History of the atom; constitution of the nucleus and discovery of the neutron; regularities in nuclear properties; properties of the nuclear force; fission; nuclear reactions and energy generation in stars; nuclear decay modes (beta decay, neutrino); elementary particles; relevance of physics (particularly nuclear physics).

Course Description

The aim of this course is to show, in one narrow field–nuclear physics–what physicists have done and why their work is relevant to society. The purpose of the course is not to make scientists out of the students, but to give them an appreciation for the intellectual content of nuclear physics and to stress its relevance. General physical principles, such as energy and momentum conservation, will be stressed, since they form a natural and important part of nuclear physics.

During the second half of the course students will be asked to write a term paper on any subject in which nuclear physics plays a decisive part. Examples are: the high energy accelerator (why, and where are we going?); government support of nuclear research (past, and future, how much?); economics of nuclear power; nuclear warfare (is it possible, is it justified?); nuclear test ban treaty (what is it?); biography of a nuclear physicist; a science fiction story based on nuclear physics; a discovery in nuclear physics; responsibility of the nuclear scientist (for what, to what extent?).

A Proposed Science Course for the Non-Scientist

by Leonard I. Schiff, Professor of Physics

The following remarks assume that relatively large numbers of students (say, 100 to 500) will be interested in a year's course that will meet the science requirement for non-scientists. The high cost of seminar-type instruction by senior faculty members then precludes this small-group approach. I am therefore thinking in terms of one-hour demonstration-lectures delivered by a professor two or three times a week, possibly supplemented by discussion sections with teaching assistants.

I suggest that the year's course be divided into three parts: physical science in the autumn, biological science in the winter, and technology in the spring. There would be no laboratory, but demonstrations would accompany the lectures. The reason for this is that a knowledge of laboratory techniques cannot be taught in the time available, and that "believing by seeing" can be conveyed by means of carefully planned demonstrations.

Each of the three quarters would be built around a theme, and no attempt would be made at coverage of any field. The themes need not be the same from year to year, but are to be chosen at the discretion of that year's professor. Possible physical science themes are: science vs. magic (Martin Gardner's book *Fads and Fallacies in the Name of Science*, Dover, 1952, would be good collateral reading here); conservation principles, such as matter or energy; symmetry. Possible biological science themes are: the distinction between living and nonliving things; the replication of living things; the variety of living things. Possible technology themes are: man and his environment; the technological future; the history of technology.

One professor would be reponsible for each quarter's work. Each professor is to be free to consult with others in related fields and to call upon his colleagues for guest demonstration-lectures. The three responsible professors might wish to correlate their efforts, but need not be constrained in this way.

The relatively small number of students who are stimulated by the course to go further with science or technology should have some channel available to them, perhaps the discussion sections mentioned above, or one of the regular courses in the subject matter fields.

June 14, 1967

Appendix 11

Memorandum on the Relation of the Medical School to Undergraduate Education

To: The Study of Education at Stanford

From: Medical School Liaison Committee

It was decided at the December 18 meeting of the Medical School Liaison Committee to the Study of Education at Stanford that we summarize our thoughts to the parent committee at this time, and ask for their comments.

Our task has been to consider how the medical school might relate to undergraduate learning at Stanford. A number of devices were considered, including the following: a series of popular medical lectures; a series of group discussions on social topics of a medical cast; research jointly performed by undergraduates and medical students; a number of colloquia of the kind now offered seniors; a possible role for medical school faculty in teaching at overseas campuses. Of these teaching methods, the one which seemed most appealing involved presentation of a social topic of concern to undergraduates, followed by small group discussions. It was felt that such a device would benefit from the following characteristics. It should be held in the evenings in a non-medical school site; each session would begin with a lecture to the whole group, followed by small group discussion with maximum student participation; advanced medical students could lead these discussion groups; the undergraduates might write a paper as part of their course work. Some of the topics suggested were the following: use of drugs, self-destruction, mental illness, euthanasia, the human sexual response, homosexuality, venereal disease, abortion and contraception, old age, population control, and medical care in underdeveloped areas. It was felt that many of the presentations could begin with a general session in which an illustrative patient or subject could be shown. He could be questioned by medical school physicians as well as by sociologists and psychologists from outside the School of Medicine. This kind of approach might give added point to the small group discussions which would follow. There should be a bibliography available prior to each week's discussion. Some additional value was seen in the area that each college student should become a catalyst in the society he joins and that perhaps some undergraduates, after taking the course proposed, could hold similar sessions for high school students.

It should be noted that these views were reached by the Committee members with considerable help from representatives of two medical school classes. The Committee also considered trying several of the methods indicated simultaneously, but decided it would be best to attempt the group discussion of sociomedical questions first, and on the basis of how this might fare, to consider expansion and changes at a later time. The Liaison Committee would like to have the comments of the parent committee on this material, and in addition would like to have the following questions answered: Should the Liaison Committee take up other subjects at this time, proceed with the planning and offering of the principal device we have suggested, enjoy an hiatus in our meetings until further notice, or consider our job done and disband. If it is felt we should continue to meet, we will need a replacement for Dr. Turner who is about to go on sabbatical leave, and if we are asked to proceed with the planning and offering of a course, it might be wise to expand the membership of the committee.

Respectfully submitted,
Eugene Farber, M.D.
Thomas Gonda, M.D.
Duncan Govan, M.D.
Rudolf Moos, M.D.
George Start, M.D.
Robert Turner, M.D.
and
William P. Creger, M.D.
Chairman.

December 28, 1967

Appendix 12

Staff Paper: Undergraduate Honors Programs and Independent Study

Introductory notes:

1) Because there is much confusion and inconsistency in use of terms, I will begin by defining "honors" and "independent study." Honors refers to special work in addition to normal courses done in the major department by its best undergraduates and leading to graduation "with departmental honors." This extra work normally focuses around the writing of an honors paper. Independent study is more difficult to define. At most universities, it refers to all directed individual study apart from established honors programs. Independent study usually consists of a project or a coherent study requiring several terms for completion. The closest arrangement at Stanford to independent study is directed reading (supervised lab work in some departments), which, however, is usually only for one quarter and thus is not of the scope of independent study.

2) This paper results from conversations with directors of each of Stanford's existing honors programs and from reading in the field of honors and independent study.

3) A summary of the current honors programs will be found in Table 2 at the end of the paper.

Honors Programs and Independent Study at Stanford Today

A) Honors

Honors work represents very little of the instruction offered Stanford undergraduates. Eleven departments have programs leading to graduation with honors. In these departments, about 6% of the majors participated last year. The number of units of honors work was 1.1% of the total number of units of undergraduate work offered by these departments. In addition to these departmental honors programs, there are two interdisciplinary honors programs, enrolling about 40 students per graduating class.

The remainder of the description of existing honors programs is a summary of my conversations with the directors of these programs. It is broken into: admissions, program, objective, funding, and future.

1) Admissions

Criteria for admissions to honors programs include in almost all cases a B average overall and frequently in the department as well. The other main criterion used is student interest, which is usually tested by the fact that the faculty gives little encouragement to honors programs and students usually must search them out. Humanities, Philosophy, and Sociology are significant exceptions, however; they each have active recruiting. Several departments feel that, in spite of the grade criterion, they are not getting their best students into honors work. Reasons to explain this will be discussed below in the section on Problems.

2) Program

All the programs (with the exception of Chemistry) require a senior essay or thesis as the main project of the program. In addition, about half of the programs are two years long and begin with a two- or three- quarter seminar in the junior year. In most cases, the seminars serve as an introduction to the discipline: its scope, problems, and methods. In two cases, additional course work is required. On the average, about 15 units above the minimum requirements for the major is demanded of participants in the honors programs.

3) Objective

The existing honors programs split into two groups as to purpose. About half call themselves pre-professional and are oriented principally toward lowering graduate research training to the undergraduate years. The other half are either cross-disciplinary or have "liberal education" goals.

4) Funding

With the exception of the Honors Humanities program, which is part of the University budget, and the Social Thought program, which is given a small stipend for its coordinator, no honors program receives University or departmental funding. All thesis advising (sometimes as many as four or five students for one professor) is done in addition to regular teaching loads and departmental responsibilities. Some reduction in teaching, however, is normally made for those leading a junior honors seminar. Thus it seems to be the pattern that honors programs have grown up as accretions to the existing department structures. Many departments express a desire to expand their programs, but find it impossible to do so without expansion of staff. Some models of how honors work could be expanded with minimum budgetary expansion will be presented later in the paper.

5) The future

Several departments, as just stated, would like to expand their programs to involve more students. For example, Jonathan Freedman, director of the honors program in Psychology, states that "it would be good to have half the majors doing honors research." All departments, however, also feel that their staffs are now carrying maximum teaching and advising loads, so that any major expansion of honors work would require major expansions of staff. Thus, no department is planning expansion, although many would like to.

Several departments have announced changes in their honors programs for next year. Political Science and English will have new honors programs, both structurally patterned after the Social Thought program. Mathematics, which has had no honors work, will institute a program in the fall which involves 10 units of independent reading and advanced course work. Communications, too, has an honors program in process. Philosophy may alter its program to allow the junior tutorial to be taken as tutorial work in either the junior or senior years. The Behavioral Sciences program, which has had no participants for the last few years, has been abolished.

B) Independent Study

The most comprehensive examination of independent study to date is the four-year investigation of twenty-one independent study programs made in the mid-1950's by a faculty group at Wooster College.[1] Their findings will be summarized before independent study at Stanford is discussed.

In surveying eleven required and ten voluntary independent study programs, the Wooster study found that student and faculty participants saw the following as values for students of independent study: 1) develops the ability to work resourcefully, thus encouraging creativeness; 2) may serve to personalize academic work as no course can do; 3) teaches research techniques in student's discipline; 4) demands student organize his thinking; 5) integrates course work in the major or even college work in general; 6) prepares students for graduate work. There are values for the faculty as well. Most frequently, the professors mentioned that they found independent study stimulating to their thinking, their reading, and their teaching.

In questioning about drawbacks and problems of independent study, the most frequent student response was "none." After that, students mentioned lack of good guidance by adviser, displacement of courses, possibility of procrastination and "sloughing off," and lack of uniform standards. The faculty most frequently responded that there was inadequate time for proper advising.

The costs of independent study are difficult to estimate. The Wooster study found that the maximum cost of a required program for all students was about 25% increment to the instruction budget. The majority of programs studied, however, did not seem to be that costly, and "most voluntary programs appear to be inexpensive" (p. 201). In addition, independent study may pay for itself by the amount of donations to the university which it promotes.

---

[1] Robert Bonthius et al, *The Independent Study Program in the United States* (New York: Columbia University Press, 1957).

Experts point out two further considerations. First, independent study programs must have the support of both administration and faculty if they are to be successful. Second, independent study is best supervised by a university-wide committee: "in the few schools (in the Wooster study) in which administration is left entirely to the departments and advisers, the programs are suffering from neglect. A small faculty committee or board which includes the dean is probably a good device for all programs." (Wooster study, p. 218.) Edgar Robinson came to a similar conclusion in his report on *Twenty Years of Independent Study at Stanford University* (p. 28).

As explained in the Wooster study, independent study under the guidance of a faculty member involves a major portion of a student's time over a period of several terms and normally culminates in a thesis or project report and/or written examination. Frequently, the work engaged in supplements the normal course work, but increasingly it is coming to substitute for it. For example, six colleges including Pomona are now conducting an experiment with twenty-five students in each entering class in which the students will get their entire college education through independent study. The experiment is funded through the Ford Foundation. Independent study in this sense is unknown at Stanford. The only directed, individual study here is directed reading (and variations such as directed lab work), which cannot be called independent study because they are usually for only one or at the most two quarters and lack the scope and depth of independent study.

Even if directed reading were independent study, the amount of independent study at Stanford would be miniscule; last year, the number of units of directed reading and directed lab work, etc. was 2.0% of the total number of undergraduate units offered in H & S.

Bruce Campbell

September 20, 1967

Table I

Honors and Directed Work in H & S, 1966–67

Units Directed Work/ Total Units H & S	*%*	*Honors Units/Total Units H & S*	*%*
4423/215,952	2.0%	1458/215,952	0.7%

Total Honors and Directed Work/Total Units H & S	*%*
5881/215,952	2.7%

Table II

Undergraduate Honors Program

Dept.	*Participants ('67)*	*Programs (in units)*				*Objective*		*Admissions*			*No. Graduates*			
	no. honors grads/ no. majors	*jr. sem.*	*sr. thesis*	*courses*	*total units*	*pre-prof.*	*other*	*3.0 overall*	*avg. in major*	*other*	*'66*	*'65*	*'64*	*'63*
Anthro	3/53		12		12	X		X	3.0		0	1	11	2
Bio	19/260		varies		5–10	X		X	3.0		13	7	11	9
Chem	3/67		9	12–13	21–22	X		X	3.3		2	5	3	1
Econ	21/301		10		10	X		X	3.0		26	18	12	15
English	13/347	10	10		20		X	X		interest	13	14	2	9
History	29/602		15		15		X	X	3.0		19	13	18	13
Music	0/35		12		12	X			3.0	36 music units	1	1	0	3
Phil	2/51	9 (tut)	15				X			all maj. encouraged	7	8	7	8
Poli Sci	4/342	10	10		20		X	X			6	1	4	7
Psych	14/272	9	5–15		14–24	X		X			11	6	0	5
Soc	2/40	6	10		16		X				7	2	3	3
Hum	21	12	12	17	41		X	X			24	18	24	12
SocThgt	14	12	5–15		17–27		X	X			14	13	13	13
										Total	143	109	108	100

Appendix 13

An Enabling Mechanism for Off-Campus Learning Programs at Stanford

by Morris Zelditch,
Professor of Sociology

Demand has been increasing for undergraduate courses that offer various kinds of off-campus study or field experience to the student. By some the demand is for a research experience pure and simply; by others it is for research combined with some sort of service or experience of educational value not available on the campus.

Last spring's experience with what we might call the "Washington quarter" is only one indication that not only students but faculty feel that this need exists. And without trying to prophesy the future, we can guess that at least on the student side the interest in such programs will continue to increase.

In this paper we take this interest for granted. Rather than offering a rationale for such interest or suggesting methods of increasing it we analyze the problems involved in responding to it and try to offer a solution.

Among the kinds of field experiences that have been mentioned as possibilities are: (a) tutoring in East Palo Alto; (b) working in a mental hospital; (c) studying a rapidly changing small community; (d) working in Taiwan; (e) spending a quarter in Washington during Martin Luther King's projected "march;" (f) doing research at some other university or institution; (g) gaining field experience with a vocation.

The experience with the Washington quarter shows not only considerable interest in some sort of field program, but also that no regular arrangement exists to satisfy such a need, and that it is difficult to get such a program mounted in the present state of things. Something like three years ago the University had proposed a summer field program to several private foundations, endorsed by the Anthropology, Political Science, and Sociology departments; but this proposal was never funded. The core of the proposal was a 3-quarter sequence: (1) a 5-unit, quarter seminar preparing students for the field; (2) a full-time quarter in the field (thought of as a summer activity); (3) a 5-unit, quarter seminar evaluating the experience for the students. All this was to be supervised by a faculty member employed specifically for the program, and supported by funds from the granting agency. Given the failure of this proposal to find any external support, the question to be faced is whether it is possible to find some workable way of meeting the felt need for a field experience with our own resources.

The *chief difficulties* to be solved by a workable proposal are:

(a) *Standards.* There is no difficulty in finding experiences for students in the field. The problem is to make this a valuable educational experience. To be valuable educational experience, the program must provide adequate preparation before the experience, supervise it with some care, and provide some adequate evaluation after the experience.

(b) *Staff.* To provide adequate supervision requires that the staff have adequate academic credentials and have time and energy to devote to the students. From our experience with the first proposal to private foundations, it is clear that financing and staffing are the chief difficulties to be resolved, and they are no mean obstacles. There are faculty willing to put time into such activities, but the cost in the end proves to be greater than most people are willing to absorb. These costs are, first, that this sort of activity does not contribute to one's professional career but takes time away from it; second, that University evaluation procedures are based on career, so that within the institution as well as outside of it such activities detract from advancement; and third, such efforts as have been made to offer such experience in the past (and there have been a fair number of these) have not even counted towards one's regular teaching load. Hence, to understate the case, one could say that the University structure does not exactly facilitate staffing of such programs.

(c) *Living Arrangements.* The field experience very often takes the student away from the campus, in some cases, far enough away that the student must make separate living arrangements. But the University is still responsible for the student, and some reasonable way of providing him with quarters, and with residential, as distinct from academic, supervision must be devised. Where the students live in a group, and are co-ed, there are of course special problems to be thought out, and resolved.

(d) *Procedures.* Students have to be selected, given credit, and specific programs and topics approved. The auspices of the program therefore have to be established, and responsibility assigned for these functions.

We hasten to say that we are not about to solve all these problems.

We propose here a means to permit the University to feel its way towards some solution of these problems. What is required is something greater like an *enabling mechanism*, essentially permissive in character, that provides those who feel the need with some legitimate way to satisfy it, and without excessive cost to their careers, in the case of faculty, and to their progress towards a degree, in the case of students.

Given this assumption, that we want only to devise an enabling mechanism, what we need is some variant of the typical 190 Directed Individual Research course. Call this course 193. It would have the following features:

(a) On approval by each individual department, it would appear in the Courses and Degrees Bulletin as a regular course, though taught by arrangement. It could be called Directed Field Research.

(b) It would be open to groups as well as individuals.

(c) It would offer from one to four courses in any one semester and a maximum of six courses credit.

(d) It would be taught by any member of the University staff, and only by members of the University staff.

(e) It could be taken by students living either on campus or away from campus.

(f) Credit would be given for the course by the department offering it, including credit towards a major in the department, but if two members of the staff from different departments taught it jointly credit could be split between two or more departments.

(g) Selection of students would be made by the faulty member offering the course, and consent of instructor would be required to enroll.

(h) No freshmen would be allowed to take the course, unless it were offered as a local field experience, i.e., one in which students remained on campus for residence purposes.

(i) Each such course would be required to have the following phases:

(1) a preparation for field work, involving both training in methods of such work and work in the literature of the topic around which students would focus their field experience.

(2) a field placement, supervised by the faculty member responsible for the course. Supervision can be accomplished at a distance, for academic purposes, if students regularly prepare field notes which are sent to the faculty member responsible and which he regularly annotates and returns with his comments and queries.

(3) An evaluation phase, involving a group discussion, directed by the faculty member giving the course, of what was observed, what it means, and how it compares with what is known, completed by an extensive paper which is graded by the instructor.

(j) The topic, the degree of structure given to the seminars, and the degree to which the field experience would require students in the field to see each other regularly and compare notes, would all be matters for the discretion of the instructor of the course.

(k) The amount of time spent could be also varied at the instructor's discretion, though two time patterns obviously suggest themselves:

(1) A calendar year sequence, in which the preparation phase is a full course, the field phase is a full 4-course equivalent load, and the evaluation phase is a full course.

(2) A one term variant, in which the preparation phase is accomplished in the first 2-4 weeks, the field phase occupies the middle weeks, and the evaluation phase is accomplished in the last 2 weeks, the whole being offered for a full four-course load.

Two very substantial problems remain unsolved in (a) - (k). First, as to living arrangements we have some ideas, but not sufficiently complete ideas. There seem to be four possible cases to consider: (a) Students remain on campus, and the field experience is local, such as working in Palo Alto, Mountain View, Alviso, etc. (b) Students leave campus, but are in individual placements. (c) Students leave campus, live in a group, but are somewhere in the continental U.S. (d) Students go overseas in a group. There is no problem in the first case, as the only responsibility is academic, which is provided for. Frankly, there seems to be no real problem in the second case, granted parental approval, because the situation is much like off-campus housing, though at a distance. It would have to be clear to parents that the Dean of Students is not traipsing to another city to bail a student out of jail if he gets into trouble, but academic supervision is still the main problem, and is provided for.

The third case, however, is clearly a problem, and is perhaps the most likely case. Only two solutions come easily to mind: (1) Permit students to go on such trips only if faculty members can be found who will actually be physically with them. (2) Permit non-university agencies to supervise the non-academic activities of the students. In the first case, unlikely as it sounds, we can imagine a professor carrying on a seminar in Washington while engaged in research or consultation there. In the second case, the idea was first suggested by an overseas proposal, in which the Volunteers In Asia undertook to arrange housing, food, and responsible supervision for groups of students in S.E. Asia. Similar agencies must exist in the United States. Thus, we can imagine such auspices presenting themselves, but we cannot assess how common they would be or what limits the necessity of finding them would place on the scope of the program. The fourth case may be easier than the third, since some possibility exists of using the experience of the overseas study office with programs like those functioning for graduates, or for language specialists, as a basis for developing undergraduate special programs.

A second unsolved problem is the teaching load of faculty offering such courses. We think of 193 as being like 190, but there is no actual teaching credit offered to faculty for teaching 190; they carry such courses over and above their regular teaching activities. While in the case of an individual reading course this might be tolerable, though we think it is not, in the case of directed field research the load is too heavy to be carried over and above a regular program. On the other hand, any other arrangement presents special difficulties. We imagine two cases. (a) A group of students approach a professor who is willing to work out with them some off-campus program. (b) A professor decides he wants to offer off-campus work on some topic, which he announces as open to a group of N students. In the latter case, it is possible to work out specific arrangements with the head of a department, who may if his department approves allow the course to replace some other course that would have been taught by that professor. The only difficulty is one of timing, since the arrangement could hardly be made on the spur of the moment. It would also only be possible if the field course did not replace some core course in the department's program. In any case, we imagine case (a) to be one that will commonly arise also. That is Department X will offer 193 by arrangement, N students will want to arrange for it, they will approach the professor who wants to offer the course in the autumn of the year in which it is actually to be given, and it is then a little late to readjust the professor's program as stated in the Courses and Degrees Bulletin. The feature we like about this is its spontaneity, guaranteeing motivation and interest, and it is certainly procedurally possible if our proposal is adopted, because by offering 193 in the catalogue a department has already approved the course, permitting individual faculty discretion as to its topic and content. But to negotiate the time released from other activities would take considerable advanced planning, working against the spontaneity of this particular path to such a field experience.

Nevertheless, for Directed Field Research away from campus there seems no alternative to giving at least a year's lead time to its planning and preparation, so that it is possible to make appropriate adjustments in an instructor's teaching load, on the approval of his department. If it is clear that the University encourages such approval, so that departments are not reluctant, we believe there is sufficient faculty interest to guarantee that they will request that approval. What is lost is mainly the ease with which such courses can be arranged.

We therefore see the greatest difficulty, paradoxically, with Directed Field Research that is residentially local. The faculty, like the students, will want to arrange these fairly close to the time they are given; the demand on time will be great so that it is not easy just to tack them onto a regular load, but the course load for the year will already be agreed on, publicly announced, and difficult to adjust.

Unless a simple one-course version of off-campus study can be devised, I therefore make the following proposal, though with great hesitation. Either in each approving department, or perhaps better as a special offering under the auspices of the undergraduate dean, there should be a pool that stands ready to respond to requests for such programs. That is, it will be necessary to announce ahead of time the availability of an agreed on set of professors who are willing to supervise field research within certain specified fields (topics to be arranged). These professors, recruited voluntarily, would have arranged a year in advance that they would be free to give such courses.

To make this workable a coordinator would be required. Not much time would be involved; mainly someone is needed who would be enthusiastic and responsible.

July 8, 1968